

# GEORGIA TECH RESEARCH

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## News Release

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TECH LICENSES SOLVENT EXTRACTION  
ETHANOL RECOVERY PROCESS

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ATLANTA, GA -- Georgia Institute of Technology has developed a novel solvent extraction process which is producing fuel-grade ethanol with at least 50 percent less energy than is required for distillation.

The technology is so promising that the Dynes Holding Company, an Atlanta-based investment firm, has agreed to pay the Institute \$1 million over the next 10 years for commercial rights.

The process has recovery and drying cycles which are coupled with continuous fermentation. Inventor Dr. Bill Tedder of the Tech School of Chemical Engineering describes the concept involved as "counter current liquid/liquid extraction" -- that is, solvents flow upward through a downward moving stream of water and ethanol, drawing off the ethanol.

"In recent years, some engineers have claimed it would take more energy to produce ethanol than the fuel would offer," Tedder says. "Our technology proves that the recovery process can be cost-effective."

Tech has built a prototype unit which is currently producing 194 proof ethanol with inexpensive and commercially available solvents. Engineers are obtaining a fuel with less water than the ethanol azeotrope, without sacrificing high recovery levels.

Solvent extraction of ethanol offers a fuel "dry" enough to be used as gasohol in motor vehicle engines. However, the product of an intermediate

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stage of the process -- 120 to 130 proof ethanol -- may be used efficiently to power gas turbines generating electricity. Tedder believes this latter application may prove particularly useful for agricultural processing plants which produce large amounts of fermentable waste products, such as corn, barley or even fruit and vegetable pulp.

Another beneficiary of this technology could be the farm community. Tedder foresees an arrangement through which growers traded surplus crops to ethanol producers in return for free or inexpensive gasohol.

Georgia Tech developed this process with the financial sponsorship of the Solar Energy Research Institute, a contractor of the Department of Energy (DOE). The results of the research have been well-received at DOE because the program is fulfilling the agency's primary mission of funding basic energy research which has promise for rapid commercialization.

"By proving that this process has industrial promise, we're hoping to get additional funding to improve the technology's overall efficiency," Tedder says.

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