

Biodiesel has sweet smell of success



Photo by Gerri Bauer

Facilities staff members John Freeman, left, and Charles Knott, right, developed the biodiesel fuel that powers the campus lawnmower on which staff member Michael Adams, center, is seated. Adams' mower gets twice as many miles to the gallon with the new fuel, pictured below right.

THOSE FRENCH FRIES YOU EAT IN THE Commons represent unlikely allies in Stetson University's quest to control its environmental footprint.

The cooking oil in which the potatoes and other fried foods are cooked is helping power a lawn mower in a pilot program launched by the Division of Facilities Management.

Two of the department's senior staffers initiated the project in January. John Freeman, a master electrician, and Charles Knott, a vehicle technician, approached Associate Vice President for Facilities Management Duane Knecht with a proposal to develop a biodiesel mixture for use in grounds equipment.

"Part of the challenge was finding a mixture that would work," said Knecht, noting that Freeman and Knott met after work to brainstorm their idea. "They've done a superb job with their experiment," he said. "So far, it's been exceptionally positive."

Freeman, who uses a biodiesel mixture in his personal Ford truck, and Knott researched and developed the plan. "We sat down after work and within an hour, the two of us had it figured

out," Freeman said. "Charles and I wanted to make a difference to help the university."

Their mixture is a blend of 20 percent cooking oil and 80 percent diesel fuel. The two staffers also designed and built a portable filtering system that cost only \$200 in startup costs. The money funded the system's pump, filter and battery. Everything else was recycled from material on hand. It takes 30 to 45 minutes to filter almost 40 gallons of fuel.

"We're running one lawnmower now," Knott said, with plans to expand the program. "We're running 30 percent cooler on (engine) temperatures," he said. "(The biodiesel) cuts down on wear and tear on the engine. The (fuel) is actually cleaner; it has better-smelling exhaust."

"A distinctive aroma," added Knecht.

Grounds staff member Michael Adams, who operates the lawnmower, admits to occasionally becoming hungry after smelling culinary-scented exhaust.

Everyone on the project was happily surprised to notice a major improvement in miles per gallon. The mower previously ran 6.6 hours on a tankful of fuel. It now runs for 12 to 14 hours before needing refueling.

"That's the best part," Freeman said. "(The biodiesel) is cooler, cleaner and more efficient."

Knott and Freeman are quick to share credit for their program with the support of Helen Cox, general manager of Dining Services, and with academic support from Stetson science faculty. "This was a combined effort," Knott said.

He and Freeman said the project has been an enjoyable learning experience. Knecht noted that the department plans to expand the pilot program to the rest of the grounds equipment.

– Gerri Bauer



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