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Experimental facility could make trash profitable

By [Sean Hao](#)

Advertiser Staff Writer

The University of Hawai'i says it is close to finishing a plant that will turn the campus' green waste into cash.

The plant converts grass, wood and macadamia nut shells into charcoal that can be used for cooking, filters or as a clean alternative to coal.

The plant should be finished this year and fully running by fall 2005. At that time, it should be able to turn UH's green-waste disposal cost of \$10,000 a year into a \$100,000 profit.

"Not only will these waste materials no longer require the expense of being hauled to a dump site, but a valuable commodity will be produced," said professor Michael Antal Jr., the inventor. "If it operates 24 hours a day, it will make 10 tons of (charcoal) per day. That's like having a fifty-barrel-per day oil well."

The process, known as flash carbonization, uses heat and pressure to turn dehydrated corn cobs, rice husks and other green waste into charcoal in about 30 minutes, compared with other processes that can take as long as 10 days, according to UH officials.

Antal's process is not expected to produce harmful greenhouse gases as it churns out charcoal that itself is free of contaminants such as sulfur. The charcoal could heat boilers used by metal, food and agricultural industries.

The cost of the facility is about \$100,000, which excludes more than \$2 million spent developing the technology. Antal has been working on it since the 1980s with money provided by the federal government, UH and the private sector.

The technology sprung from a request by a colleague of Antal's to improve charcoal yields in Thailand to cut down on the loss of native forests.



Milton Staackmann, an assistant specialist at the University of Hawai'i, is dwarfed by the flash carbonization unit designed by UH professor Michael Antal Jr. The unit turns green waste into charcoal.

Andrew Shimabuku •
The Honolulu Advertiser

Open house set

What: Open house for UH's flash carbonization plant

When: 1:30 to 3 p.m. today.

Antal and the university hope to generate royalties from the technology. Any initial royalties will finance additional research and development and offset patent costs, said Dick Cox, director of the UH Office of Technology Transfer. That patent application is pending.

Where: Behind the Thrift Shop on East-West Road at the University of Hawai'i-Manoa campus. Use visitor parking lots.

Antal will discuss how he discovered the technology and the hurdles to making it profitable at an open house this afternoon.

For more information: Call the Hawaii Natural Energy Institute at 956-8890.

UH has licensed the technology to one company, Pacific Carbon and Graphite LLC, which has the rights to manufacture the charcoal in seven Southern states and sell the product worldwide, he said.

Other companies have expressed interest in the technology, Cox said.

The timing of any commercial rollout of the process will hinge on how well the pilot plant works, he said.

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