

RESEARCH

Rare Fungus Shows Promise To Fuel Mushrooming Diesels

Move over soybean: A scientist at Montana State University has discovered a rare fungus that feeds on cellulose—such as tree bark, cardboard and sawdust—to produce volatile gases that resemble diesel fuel. Further research could yield mass-production of cellulosic biodiesel as an alternative to petroleum-based diesel or food-based fuels, scientists say.

Many organisms give off waxy hydrocarbons. But *Gliocladium roseum*, a fungus discovered in Patagonia in 2002, gives off volatile, short-chain hydrocarbons better suited to combustion. “This is a unique bug,” explains Gary Strobel, a professor

at MSU whose findings appear in the November issue of scientific journal *Microbiology*. In the lab, “A wave of goose bumps went all over my body,” he says.

Scientists now are attempting to isolate the fuel-making enzymes to see if they are compatible with large-scale production. “We’re now looking at mapping genes to see if we can alter bacteria to crank it out,” Strobel says, adding that Brazil already uses yeast commercially on sugar cane to produce ethanol.

Researchers have been looking at new ways to tap nonfood sources of fuel as questions mount over food-price inflation and energy efficiency. Using what



▲ **Petri to Petrol.** Patagonia fungus emits fuel.

Strobel calls “myco-diesel,” producers could take waste “and convert it into diesel biologically,” he says. Diesel powers most construction machines, and light-duty diesel cars and trucks are set to grow 81% globally through 2017, according to J.D. Power and Associates, like ENR, a unit of McGraw-Hill Cos. Strobel says myco-diesel would also be a more efficient alternative to ethanol, delivering more miles per gallon. ■

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