

## Coffee Biofuel

Dr. Manoranjan Misra



### Background:

Producing fuel from spent coffee grounds is an attractive option compared to conventional food sources such as corn and soybean which tend to drive up commodity prices and reduce the available food supply. World coffee production is estimated to hit 18.3 billion pounds in 2009, up from roughly 16.3 billion pounds in 2006 according to a December 2008 USDA commodities report. Current coffee consumption can add approximately 340 million gallons of biodiesel to the world's fuel supply. If only 50% of the spent coffee grounds were recaptured, an estimated \$3/gallon worldwide average would lead to roughly \$500M in revenue, not including revenue from by-products. UNR seeks a development partner to help commercialize this technology, including completion of a pilot plant.

### Benefits & Advantages:

- More stable and burns more quickly than vegetable oil-based biodiesel
- Follows a simple two-step oil extraction process from spent coffee grounds
- Low-cost, renewable source of fuel
- Reduces the carbon footprint
- Worldwide market
- By-products of the oil extraction process include coffee ground fuel pellets, compost material and ingredients for soap

### Technology Overview:

"Biodiesel" is organic feed stock (coffee beans, corn, soybean, etc.) that has been transesterified for use as a diesel fuel. Dr. Misra has discovered a proprietary extraction methodology can be used to extract oil from coffee beans. Initial tests using spent coffee grounds yielded 10-15% oil which can be used to make a high quality biodiesel.



### Intellectual Property:

UNR ID #: UNR08-002

Title: *Methods, Systems, and Apparatus for Obtaining Biofuel from Coffee and Fuels Produced Therefrom*

WIPO Pub #: WO/2009/015358

**IP Contact:** Michael Birdsell, Dir. IP Marketing & Business Dev., [mbirdsell@unr.edu](mailto:mbirdsell@unr.edu)