

Japanese scientists develop biofuel from inedible oranges

Scientists from Japan's Mie University have developed biofuel from inedible oranges and have received promising results due to its efficiency and less corrosive nature, media reported.

The team has been carrying out the project for more than a year in the western Japanese prefecture of Mie, taking advantage of its high orange production.

According to a report in the Asahi daily Tuesday, the scientists were able to run a remote-controlled 14-kg vehicle with a mixture of gasoline and the new orange biofuel.

"This biofuel has the potential to be used for gasoline-powered farm tractors and mowers," bioengineering professor Yutaka Tamaru at Mie University said.

The scientists mixed rotten and damaged oranges and waste in tanks with clostridium cellulovorans bacteria obtained from wooden chips. The bacterium decomposes the cellulose fibres and produces a kind of fermentable sugar. When the sugar is fermented with another microorganism, it produces the orange biofuel in 10 days.

The team was able to extract around 20 millilitres of the biofuel from three kg of waste and discarded oranges.

The resulting fuel is less corrosive than bioethanol, as it contains 70 percent of biobutanol which does not easily react with the humidity.

Biobutanol also has a greater calorific value than bioethanol, which makes it possible to raise the biofuel percentage when mixed with gasoline.

Source: www.freshplaza.com/ 20/11/2014