

Scientists develop cost-effective method of biodiesel production

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LUDHIANA: Under the aegis of Council of Scientific and Industrial Research-Central Mechanical Engineering Research Institute (CSIR-CMERI), the scientists at the Centre of Excellence for Farm Machinery (CoEFM), Ludhiana, have developed a technology of 'semi-continuous biodiesel plant'.

This technology represents a simplified process to produce biodiesel from any feedstock having free fatty acid content up to 10%.

It is a low-maintenance production technology, which can be easily implemented anywhere at low capital cost and operated with lowest possible manual intervention.

The plant is capable to utilise different types of waste edible oils and non-edible oils of jatropha, karanj, tung, mahua and jojoba as well as animal fat to produce quality biodiesel.

The CSIR-CMERI is commercialising this technology to help small and medium enterprises (MSMEs) in the production of biodiesel processing machinery. New entrepreneurs and startups are taking part in developing successful business models and presently, it has been transferred to more than five industries.

The technology is beneficial for the biodiesel producers as it would give them profit of ₹5 to ₹8 per litre with a payback period of less than one year.

DR KRISHNENDU KUNDU,
principal scientist

This developed technology was on Sunday transferred to Basudev Biodiesel LLP, Bhubaneswar, Odisha, in the presence of CSIR-CMERI director Prof Harish Hirani.

Hirani said CMERI was conducting researches and developing technologies to utilise waste oils, biomass and municipal solid waste for energy production.

He urged the industries to work together in order to take this technology further to achieve government's target of higher dependence on renewable energy sources.

Currently, the institute is developing a fully automatic upscaled version of biodiesel plant, with many more features such as utilising high FFA oils and recovery of reactants and purification of by-products.

'A BETTER ALTERNATIVE'

Elaborating the technology, the inventor, principal scientist Dr Krishnendu Kundu, said the biodiesel produced through this plant was a better energy alternative considering overall sustainability as it lowers the toxic emissions like carbon monoxide, nitrogen oxides and particulate matter.

He added that the technology was beneficial for the biodiesel producers too as it would give them a profit of ₹5 to ₹8 per litre with a payback period of less than one year.

After signing the licence agreement, Pramod Samantara of Basudev Biodiesel LLP, Bhubaneswar, Odisha, emphasised that there was a huge market potential of biodiesel technology.

The technology was then demonstrated to showcase the easiness in operation and its maintenance.

"Various functions of the plant are controlled through a single control panel. Previously, a 35 HP tractor had also been successfully run on B100 for more than 1,000 hours. It was assured that the biodiesel produced from this technology is on par with normal diesel and match the quality standard of BIS and ASTM," Dr Kundu said.



CMERI director Prof Harish Hirani (centre) handing over the papers of technology transfer to the delegation of an Odisha-based firm in Ludhiana on Sunday.

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