

Utilization by “Multi-Biomass Treatment Process” of unused biomass discharged from the palm oil industry

Procurement

Demonstration

Item: Oil palm

GHG emission reduction
Biomass utilization

Outline

A multi-biomass treatment process that can treat various types of biomasses in the same process, for the production of sustainable fuel pellets and wood substitutes (Fig. 1) from unused biomass (oil palm trunks, empty fruit bunches, and fronds) discharged from the oil palm industry has been developed.

Background/effect/note

To promote the sustainable utilization of diverse and enormous amounts of unused biomass discharged from the oil palm industry, we have developed a manufacturing technology called “Multi-Biomass Treatment Process” that facilitates the conversion of oil palm trunks, empty fruit bunches, fronds, and fibers into energy and wood substitutes (Fig. 2). The technology has been demonstrated at a full-scale level at a pilot plant in Johor, Malaysia (Fig. 3). Currently, we have started a procurement test for sustainable fuel pellets and furniture materials from oil palm trunks and empty fruit bunches with the cooperation of a palm oil mill in Sarawak.



Fig. 1. Furniture pellets made from oil palm trunks

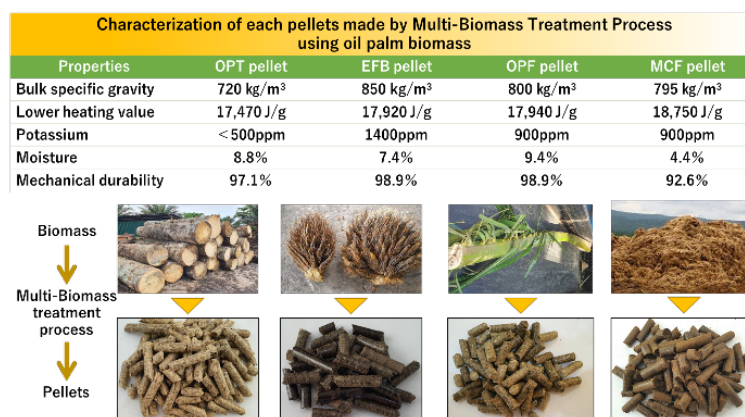


Fig. 2. Biomass pellets are produced by the Multi-Biomass Treatment Process. Sustainable and high-quality pellets can be produced in the same process.



Fig. 3. Demonstration pilot plant in Kluang, Johor, Malaysia

Technical details:



https://www.jircas.go.jp/en/publication/research_results/2019_c03

https://www.jircas.go.jp/en/publication/research_results/2015_c07

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