

Development of Sustainable Polymeric Materials from Non-edible Biomass

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Abstract

Global warming and plastic problems have been received much attention in recent years. One of the key solutions for these problems is utilization of renewable resources. Renewable resource, that is biomass has carbon neutral property leading to be low impact of greenhouse gas emission (GHG). In addition, biomass has unique chemical structure and natural properties. Non-edible biomass resources have received particular attention since these biomasses are not competitive as food against future population growth.

Our research groups have been focused on development environmental functional polymers to mitigate these global problems by development of biomass-based polymers and carbon capture membrane technology.

In this presentation, effective utilization of non-edible biomass (*e.g.*, natural plant oil and chemicals from biomass waste) for sustainable functional polymers will be presented. Recent our new international project, “*effective utilization of unutilized biomass waste in natural rubber industry*”, in SATREPS (Science and Technology Research Partnership for Sustainable Development) as a collaboration between JAPAN and THAILAND, will also be introduced.

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