グリーンテクノロジーを用いた木質系廃棄物の総合的有効利用法の開発

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2004 Fiscal Year Final Research Report Summary

Development of Total Utilization Method of Woody Waste by Green Technology

Research Project

Project/Area Number

15360483

Research Category

Grant-in-Aid for Scientific Research (B)

Allocation Type

Single-year Grants

Section

一般

Research Field

Recycling engineering

Research Institution

Kanazawa University

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2003 – 2004

Keywords

green technology / woody waste / methane fermentation / Lignin epoxy resin / endocrine disrupting chemical / zero emission

Research Abstract

Woody biomass is renewable resources that can be converted into useful materials and energy. The amount of carbon contained in woody waste annually occurred and emitted into environment in Japan is about 30-40% of carbon consumed to produce a variety of petrochemicals from oil. The development of industrial technique for converting a raw material into useful materials and products completely without generating pollutants such as waste gas, wastewater, and solid waste materials is expected significantly for the global environmental protection on the base of zero emission. The holocellulose, i.e. cellulose and hemicellulose, in woody waste such as

wood chips, baggase, bamboo, bark, and sweet sorghum are natural organic resources utilizable for the production of sugars. However, the holocellulose are with difficulty converted into sugars by direct biological means in a native state because a lignin network covers the holocellulose layers in the cell walls. Various different physical, chem
···▾ More

Research Products (8 results)

All 2004 Other
All Journal Article

[Journal Article] Methane production from steam-exploded bamboo 2004

[Journal Article] Development of system for phytoextraction and recovering valuable metals from contaminated soil 2004

[Journal Article] Effect of pretreatment method on methane production from Lignocel-lulosic waste 2004

[Journal Article] Total effective utilization of bagasse by using various conversion methods 2004

[Journal Article] Methane production from steam-exploded bamboo

[Journal Article] Development of system for phytoextraction and recovering valuable metals from contaminated soil

[Journal Article] Effect of pretreatment method on methane production from Lignocellulosic waste

[Journal Article] Total effective Utilization of bagasse by using various conversion methods

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