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Feasibility of the bio-char produced from food waste

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The rapid industrial development is facing problems due to the energy depletion in Korea. Therefore, it is necessary to develop alternative energy sources. Alternative energies like bio-fuels can be produced using waste fuels, so it is eco-friendly. Since the organic waste has been banned to dump in landfill and ocean, one of the most practical methods currently used to reduce organic waste is composting or feed stuffing. Converting organic wastes into useful energy sources may contribute to protecting environment as well as developing alternative energy sources. In this study, bio-char was made from food waste to solve the problems of energy shortage. Bio-char is one of the solid sources in energy production by using organic waste. In this study, it was produced by hydrothermal carbonization (HTC). HTC is a new technology for treating wet biomass waste with a thermal conversion process at relatively low temperature (180-250^{0}C). So, it seems to be a suitable treatment method for Korean food wastes because Korean food waste has a large amount of moisture content and sodium concentration. In this study, biochar is produced by 10 kg of food waste. The reaction degrees are 180, 200, 220^{0}C and the reaction time is for 4, 6, 8 hours, respectively.

Biography

Woori Cho is a Doctorate Course Student of Environmental Engineering at the University of Seoul in Korea. She is a Researcher in the Geo-environmental and Hazardous Waste Laboratory. She has done research organic waste disposal with hydrothermal carbonization to find adequate treatment conditions. Currently, she participates in a project for development of system for integrated management of soil and ground water.

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