The Production of Bioplastics Using Persimmon Pruned Branches

Kim, Gyunho (School: Masan Yongma High School)
Son, HeeGyu (School: Masan Yongma High School)
Kim, Minseong (School: Masan Yongma High School)

This paper focuses on the production of bioplastics using persimmon pruned branches. The aim of this study was to reduce environmental pollution caused by plastics. We examined that persimmon pruned branches were suitable as biomass. The study process is divided into two parts. First, the four types of branches such as persimmon, apple, kiwi, and plum were crushed into powder and their physical and chemical properties were compared. Among those four branches, we analyzed their crude protein, crude fat, cellulose, lignin, water resistance, and particle size to determine which of branches were suitable as biomass. Crude protein is analyzed by the Dumas method, Crude fat by the kjeldahl method. Cellulose by absorbance measurement after cellulase treatment. Lignin by klason lignin quantitative method. Based on the analysis, we choose the persimmon branches. Next, the study analyzed the surface, durability, water resistance, and biodegradability of plastic made by persimmon branches. In addition, we measured environmental pollution level. These findings show the plastics made by persimmon branches replace the existing plastics and will help solve environmental problems.

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