ABSTRACT

Many people are busy with various daily activities, including work, so they leave housework for example washing clothes. They prefer laundry services rather than washing their own clothes. The detergent used in washing contains dangerous ingredients, and laundry waste can pollute the surrounding environment. Phytoremediation, a method involving plants, can help clean pollutants with the help of hyperaccumulator plants such as devil's ivy. Devil's ivy is easy to find and affordable. Meanwhile, sugarcane bagasse, which is usually used as fuel, fertilizer and so on, can also be used as active carbon to absorb dangerous substances in polluted water. By combining the capabilities of devil's ivy and sugar cane bagasse, we can effectively deal with laundry waste in a more environmentally friendly manner. The purpose of this research is to find out the equipments and materials needed in an environmentally friendly phytoremediation reactor tank in dealing with laundry waste, to find out how to make and the working mechanism of environmentally friendly phytoremediation in dealing with laundry waste, and to find out the effectiveness of environmentally friendly phytoremediation in dealing with laundry waste. To achieve this goal we use several methods, namely literature method, experimental, laboratory and documentation method. Based on the research results, it can be seen that the equipments and materials used are easy to obtain, environmentally friendly and have economic value. Meanwhile, the phytoremediation method for laundry waste is carried out in 2 stages, namely making a phytoremediation reactor tank and making sugarcane bagasse charcoal. The working mechanism for laundry waste phytoremediation starts from laundry waste through devil's ivy, sand, gauze, sugarcane bagasse charcoal, large gravel, small gravel, and ends with fabric. It is proven that the effectiveness of this research is that contaminants in laundry waste are reduced

Keywords: Sugarcane bagasse, phytoremediation, laundry waste, devil's ivy