ChaCO-Ban: The Revolutionary Eco-Charcoal

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Applications of charcoal have become an interest in daily life such as fuel for combustion. However, the commercial charcoal is normally produced by cutting the mangrove trees which are not sustainable and reduced a natural barrier against erosion, storm and floods. This can lead to a worse effect if the natural disasters occur. Hence, a new eco-friendly homemade charcoal (ChaCO-Ban) was produced to replace the commercial charcoal. The new ChaCO-Ban material was produced by two-step conventional pyrolysis methods involving daily waste materials such as orange peels, banana peels and paddy husk. The scanning electron microscope (SEM) images showed that the number of air pores in the ChaCO-Ban sample is higher compared to the commercial sample. Sample with higher air pores numbers is believed to produce more ignitions due to the higher oxygen levels around the sample. The energy dispersive X-Ray spectroscopy (EDS) result indicated higher ignition elements in the ChaCO-Ban sample compared to the commercial sample. This can help to expedite the ignition process of ChaCO-Ban. The result also shows that ChaCO-Ban has pH value 9.4 which means it is an alkaline substance. ChaCO-Ban's alkaline property can be used for neutralizing acidic soil. In conclusion, ChaCO-Ban is a new potential alternative charcoal that can replace commercial charcoal.