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Potential Crude glycerol from Transesterification WCO *(Waste Cooking Oil)* as an anti-fungisida Spray

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Abstract : Waste cooking oil (WCO) can be used as an alternative raw material of biodiesel production with glycerol as a byproduct. Crude glycerol generated should be purified first. Glycerol purification process is done in two stages, namely saponification and acidification process. In the process of saponification strong alkali KOH is added to form the soap and then continued the acidification process with variation of pH 9.7; 9.6; 8.5; 4.7; 4.4 and the concentration of H_3PO_4 65%, 75%, 85%. This purification process produces byproducts that K_2HPO_4 and KH_2PO_4 salt. Both the salt is being used as an anti-fungi spray (fungicide), particularly for powdery mildew on plants mango. In this study, the optimum concentration of phosphoric acid in the purification process of glycerol is 85% phosphoric acid concentration and pH optimum in the process of acidification on the purification of glycerol is pH 9.7 with K_2HPO_4 salts results and pH 4.7 with salt results KH_2PO_4. The melting point of each of the salt is 464 ° C and 252 ° C. As for the anti-fungi spray, K_2HPO_4 most effective in reducing the powdery mildew of mango plant with an efficiency of 13%.
Keywords : waste cooking oil, crude glycerol, saponification, acidification, anti-fungi spray.

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