

OIL ABSORPTION USING BANANA STEM

KU QI (08DKA18F1085), MICK FRESSLY ANAK FRANCIS (08DKA18F1083),

WARDINA KUSHIDAWATI BINTI ABDULLAH YAHYA STANLEY (08DKA18F1102),

MUHAMMAD ALIFF BIN ZAMRI (08DKA18F1094)

wardinakushidawati99@gmail.com, Alvinkuqi4400@gmail.com,

fresslymick@gmail.com, aliffzamri95@gmail.com

ABSTRACT

This project is to study the effectiveness of banana stems as a natural absorbent for absorbing oil spills. Cost saving and environmental-friendly is a factor that influence the selection of banana stem as oil absorbent on water surface. The mass of the oil that can be absorb will be measured. It is to find out the percentage of the oil that can absorb by the banana stems after pour onto the banana stems.

Mostly nowadays sorbent contain chemical substances that can affect the aquatic life. Despite the fact that polymer products are the most widely used, one of their main disadvantages is their non-biodegradability. Moreover, government spend big cost on the oil spills if oil leakage happened. With only using natural absorbent which is banana stem, they do not need to spend much cost because this is low cost product and also environmentally friendly.

The research objective of this project is to produce the oil absorption using banana stems. The second objective is to determine the effectiveness of the product. Thirdly, the objective of this project is to test the turbidity and pH of the water.

We collected data through the previous research from literature reviews which is Utilization of Silkworm Cocoon Waste as A Sorbent For Removal of Oil From Water by Journal of Hazardous Materials, Elsevier, Response Surface Methodology Optimization of Oil Removal Using Banana Peel as Biosorbent by Najaa Syuhada Mohamad Thani. Through previous research, we will conduct some lab test in water lab to determine the main objectives of our study which is to determine the effectiveness of the banana stems as an oil absorbent.

After the research, our finding of project is to solve the problem of oil spills using banana stems as main materials, to ensure the product is effective and low cost. This research will be conducted to test the effectiveness of banana stems to absorb the oil. The experiment will be tested based on the amount of mass of oil absorbed by the product and result of the turbidity and pH of the water. Moreover, this research also is conducted to increase the use of biodegradable and environmentally friendly products.

Banana stems is very useful to us especially in industry field. The advantages of the banana stems as an oil absorbent are it is a low cost and most importantly, it is a natural and biodegradable material. Through this project, we hope that it can help the government to reduce the cost for oil spilling in our country.

Keyword: polymer products (polypropylene, polyethylene, polyurethane)