UNIVERSITI TEKNOLOGI MARA

TREATMENT OF PALM OIL MILL EFFLUENT USING CHEMICAL COAGULATION

BOB KULLEH TONY

Final year project report submitted in partial fulfilment of the requirements for the degree of
Bachelor of Science (Hons.) Plantation Technology and Management

Faculty of Plantation and Agrotechnology

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APPROVAL SHEET

This Final Year Project Report entitled "**Treatment of Oil Palm Mill Effluent Using Chemical Coagulation**" was submitted by **Bob Kulleh Tony**, in partial fulfilment of the requirements for the Degree of Bachelor of Science (Hons.) Plantation Technology and Management, in the Faculty of Plantation and Agrotechnology, and was approved by

DR ALAWI BIN SULAIMAN
Supervisor
Faculty of Plantation and Agrotechnology
UniversitiTeknologi MARA,
Jasin, Melaka

MISS WAN NATASYA BINTI WAN AHMED
Project Coordinator
BSc. (Hons) Plantation Technology and Management
Faculty of Plantation and Agrotechnology
UniversitiTeknologi MARA
Jasin, Melaka

MISS NORDIANA BINTI IBRAHIM
Head of Study Centre
BSc. (Hons). Plantation Technology and Management
Faculty of Plantation and Agrotechnology
UniversitiTeknologi MARA
Jasin, Melaka

CANDIDATE'S DECLARATION

I declare that the work in this Final Year Project was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledged as referenced work. The final year project repost has not been submitted to any other academic institution or non-academic institution for any other degree or qualification.

In the event that my Final Year Project is found to violate the conditions mention above, I voluntarily waive the right of conferment of my Bachelor degree and agree to be subjected to the disciplinary rules and regulations of Universiti Teknologi MARA.

Name of Candidate	:	**BOB KULLEH TONY**
Candidate's ID No.	:	2012817532
Programme	:	Bachelor of Science (Hons.) Plantation Technology and Management
Faculty	:	Plantation and Agrotechnology
Title	:	Treatment of Oil Palm Mill Effluent Using Chemical Coagulation
Signature of Candidate	:	.....
Date	:	20 January 2015

ABSTRACT

In this study, treatment of palm oil mill effluent (POME) was conducted using aluminium sulphate using jar test experiment. Jar test experiment was conducted using one factor at a time (OFAT) approach, which manipulates one factor at a time in order looking for the best or optimum value for each factor. Experiment using OFAT approach was conducted on 18 runs for each coagulant 3 times replication. For aluminium sulphate, the lowest colour obtained was 120 (ADMI) at 6.0 pH, coagulant dosage of 6ml at 30% molarity and flocculants dosage of 6ml at 0.5% molarity. The effectiveness of colour removal using alum is 92%. The economic importance from this study are at the price of alum at RM3437.28 per day, polymer RM130.20 per day and the total to treat the palm oil mill effluent are RM3567.48.

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