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Palm Oil Industry in South East Asia and The Effluent Treatment Technology – A Review

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Abstract

The progress of Palm Oil Mill Effluent (POME) treatment in meeting with the regulation and standard stipulated by the Environmental Authority always been a major issue in Palm oil industries. To occupy the palm oil world market demand, palm oil industry needs to produce more than the market demand to supply necessity. Currently, South East Asia country such as Malaysia, Indonesia and Thailand rank the top country with the largest production of palm oil in the world. However, the increasing demand for the palm oil has resulted in even massive waste especially palm oil mill effluent (POME). Direct discharge of POME will adversely affect the environment. In 2011, 53 million tonnes metric of palm oil produced and 89% of this production comes from Malaysia and Indonesia. Thailand, however, used the palm oil solely for domestic usage. Since POME has been declared among the major source of pollution, a great deal of research and development including application devoted to enhance the current treatment method for POME to consistently meet the proposed stringent regulatory requirement by environmental authority. Conventional treatment such as ponding system is the most commonplace method to treat POME through the application of ponding system which is include aerobic and anaerobic treatment. Recently, the alternative methods such as coagulation, flocculation, adsorption, advanced oxidation process (AOP) and membrane technology to treat POME has shown a promising result compared to the conventional method.

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