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: MAJOR INTER-DEPARTMENT OF ENVIRONMENTAL SCIENCE

KEY WORD: CONSTRUCTED WETLAND/SUBMERGED AQUATIC

MACROPHYTES/WASTEWATER TREATMENT

THUNYALUCK THAEBUNPAKUL : EFFICIENCY OF *Potamogeton malaianus*

AND *Hydrilla verticillata* IN DOMESTIC WASTEWATER TREATMENT.

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A study on the efficiency of *Potamogeton malaianus* Miquel. and *Hydrilla verticillata* (L.F.) Royle. in constructed wetland for wastewater treatment discharged from the Residential Area Irrigation Department in Pakkret District, Nontaburi Province, was conducted for 90 days during December 1995 to March 1996. Ten water samples were collected every 5 days a total of 18 collections. The ten samples were ; one from the water intake, three from controlled test ponds, three from *Potamogeton malaianus* Miquel. test ponds and three from *Hydrilla verticillata* (L.F.) Royle. test ponds. For each sample, temperature, pH, conductivity, dissolved oxygen, biochemical oxygen demand, suspended solid, total Kjeldahl nitrogen and orthophosphate were measured.

The results showed that *Hydrilla verticillata* (L.F.) Royle. test ponds had the highest efficiency. The efficiency of removal, as average percentages, were : BOD = 84%; suspended solid = 69%; total Kjeldahl nitrogen = 95%; orthophosphate = 69%. *Potamogeton malaianus* Miquel. test ponds had lower efficiency : BOD = 80%; suspended solid = 58%; total Kjeldahl nitrogen = 93% and orthophosphate = 60%. The controlled test ponds had the lowest efficiencies : BOD = 60%; suspended solid = 18%; total Kjeldahl nitrogen = 73% and orthophosphate = 35%

It can be concluded that, by starting with the same weight of *Potamogeton malaianus* Miquel. and *Hydrilla verticillata* (L.F.) Royle. *Hydrilla* should be selected for domestic wastewater treatment due to its higher efficiency.

ภาควิชา INTER - DEPARTMENT

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ลายมือชื่อนิติกร 

ลายมือชื่ออาจารย์ที่ปรึกษา 

ลายมือชื่ออาจารย์ที่ปรึกษาร่วม 