

Somsak Charoenvaik 2007: Yield and Quality of Ubon Paspalum Grass  
*Paspalum atratum* cv. Ubon Kallar Grass *Leptochloa fusca* (L.) Kunth. and Para  
Grass *Brachiaria mutica* (Forssk.) Stapf. Cultivars Grown in Grass Filtration System  
for Phetchaburi Municipal Wastewater Treatment. Master of Science (Agriculture),  
Major Field: Agronomy, Department of Agronomy. Thesis Advisor: Associate  
Professor Suwapong Swasdiphanich, Ph.D. 84 pages.

The study on yield and quality of Ubon Paspalum grass *Paspalum atratum* cv. Ubon, Kallar grass *Leptochloa fusca* (L.) Kunth. and Para grass *Brachiaria mutica* (Forssk.) Stapf. by grass filtration system for Phetchaburi Municipal Wastewater Treatment. The completely randomized design (CRD) was employed in the experiment. The treatments were carried out by keeping the grasses in wastewater for 5 days and then drained till dry for 2 days to complete 7 days per an irrigation. There were 2 levels of wastewater; viz 15 and 30 cm. from the soil surface. The grasses were kept for 28 days (1<sup>st</sup> cycle), 56 days (2<sup>nd</sup> cycle) and 84 days (3<sup>rd</sup> cycle). The results showed that at 15 cm. wastewater level all three kinds of grasses tended to increase in height having Para grass was taller than the rest. Tiller producing ability was high at 15 cm. wastewater level of the first 2 cycles. Para grass was highest in tillering ability at 2<sup>nd</sup> and 3<sup>rd</sup> cycles. The grasses produced high number of leaves per stem in all cycles. Fresh weight and dry weight of the grasses were highest at 15 cm. wastewater level. The efficiency of reducing BOD<sub>5</sub> and nitrogen value were highest in the 1<sup>st</sup> cycle of both wastewater levels. The efficiency of reducing phosphate value was highest at 15 cm. wastewater level but not significantly different from 30 cm. Para grass had higher nitrogen and phosphorus content in the leaves at 30 cm. wastewater level and also showed highest potassium content in all cycles. Nitrogen, phosphorus and potassium content in stems of Para grass were higher than that of Kallar grass. Regarding nutrients content in Kallar grass flower contained more nitrogen and phosphorus than in stem, except potassium which was lower in stems. The studies of all three kinds of grasses indicated that they all have potentiality in grass filtration system to wastewater treatment and gave good forage quality for animals.

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