A **Comparative Study of** the Relationship between Soil Characteristic **and** ***Muytenus mekongensis*** **and** ***Azima sarmentosa*** **on Saline Soil**

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A Comparative Study of the Relationship between Soil Characteristic and *Maytenus mekongensis* and *Azima sarmentosa* on Saline Soil that study on 2 seasons , rainy and summer used in both the experiment which the area had plant and control which the area had not plant by 6 parameters was Electrical Conductivity of soil by Electrical Conductivity Meter 11:5 $H_2$01 ,the result showed the area had plant was less than the area had not plant. The pH of soil by pH Meter 11:2.5 $H_2$01 , the result showed the area had plant was less than the area had not plant. The Organic Matter by Welkley-Blank Method , the result showed the area had plant was more than the area had not plant. The Soil Moisture by weight , the result showed non signifgicant($p>0.05$). The Bulk Density by Soil Core Method , the result showed non signifgicant($p>0.05$). The Soil Texture by Hydrometer , the result showed the area that found *Maytenus mekongensis* had Sandy Loam and the area that found *Azima sarmentosa* had Sandy Loam and Silt Loam.

Key word : Soil Characteristic, ***Muytenus mekongensis*** **and** ***Azima sarmentosa***

Dipterocarpaceae Inventory in khonkaen University Using GPS.

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The Dipterocarpaceae Inventory in East of Faculty of Humanity and Social Science, Khonkean University.The studying on June-December,2003 by GIS (Geographic Information System) which use ARC INFO Program and ARC VEIW Program and use GPS (Global positioning System) version Gamin 12 CX (Error 10-20 Meter) for positioning of trees in Dipterocarpaceae. Results showed 5 species of Dipterocarpaceae was *Dipterocarpus tuberculatus* was *288,Shorea obtusa* was *104,Dipterocarpus obtusifolious* was *19,Shorea simensis* was 15 and *Shorea roxburghii* was 1. From mapping showed the distribution of trees have Contagious distribution.

Key word : Dipterocarpaceae Inventory

Effect of Methyl parathion residue on growth and yield of rice in different rice soil.

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The objective this study was to Effect of Methyl parathion residue growth and yield of rice in difference soil by gas chromatography in silt-clay rice field at Ban Koh and clay rice field at Bandonyang. There was 10 plots that 5 plot was silt-clay rice field and 5 plot was cray rice field In study field, pedicide, Panadon consisting of 2.5% Methyl parathion was applied. Five level of concentrations were separately introduced to five rice fields, nosubstance input, half amount of the instructed rate, instructed rate, two amount of the instructed rate and same amount of LC50 - 96h, respectively.

The growth and yield of rice was determine before methyl parathion introduction and after methyl parathion introduction 1 day, 3 days, 5 days, 7 days,14 days, 21 days ,28 days, 35 days respectively. In addition study in Methyl parathion residue in paddy field water and soil.

According to gas chromatography analysis in silt-clay rice field showed that Methyl parathion was residue in water since 1 day until 7 days after fill Methyl parathion in paddy field. In cray rice field found that Methyl parathion was residue in water since 1 day until 7 days after fill Methyl parathion in two amount of the instructed rate and same amount of LC50 - 96h,1 day only in half amount of the instructed rate And 1 day until 5 days after fill Methyl parathion in half amount of the instructed rate. Maximum of Methyl parathion was residue in water both silt-clay rice field and cray rice field in 2 time of introductive rate is 41.2857 ppb and 53.9570 ppb. The methyl parathion was not residue in soil both silt-clay rice field and cray rice field in every plot

The result from statistical analysis showed that Five concentration levels were significantly efficiency in Methyl parathion residue and growth of rice differently ($p>0.05$), instructed rate and same amount of LC50 - 96h can be able increate.

Key word : Methyl parathion

Effects of Agricultural Plant residues (Rice Husk and Rice Straw) on Soil Microbial Biomass in Salt-Affected Soil.

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Study the effects of agricultural plant residues on soil microbial biomass in salt affected soil. The plant residues (rice husk and rice straw) were mixed with salt affected soil at 4 levels of concentration (non-salt , slightly salt , moderately salt and heavily salt soils which EC_e were 1.54+0.03, 2.73+0.05, 4.18+0.15 and 13.50+0.41

dS/m, respectively) at an advised rate (1 g/100 g soil). Then the mixed soils were incubated at 30°C, reflecting the field temperature. Soil microbial biomass were measured every 5-day interval for 30 days by Chloroform Fumigation Extraction method (CFE).

The result indicated that soil microbial biomass was significantly increased with increasing plant residues in non-salt, slightly salt and moderately salt soils. Soil microbial biomass in heavily salt soil could not be measured because it was synthesized and the salinity might affect the microbial population. The soil microbial biomass from soils mixed with rice straws were significantly higher than those from rice husk in non-salt, slightly salt and moderately salt soils.

The soil microbial biomass from rice husk mixed with slightly salt soil was the highest following with moderately salt and non-salt soils, respectively.The patterns of soil microbial biomass evolution rate from rice husk mixed with 3 levels of salinity (non-salt, slightly salt and moderately salt soils) were also similar.The soil microbial biomass was increased at a high rate within 15 days and then decreased after that.

The soil microbial biomass from rice straw mixed with slightly salt soil was the highest following with moderately salt and non-salt soils, respectively.The patterns of soil microbial biomass evolution rate from rice straw mixed with 3 levels of salinity (non-salt, slightly salt and moderately salt soils) were also similar.The soil microbial biomass was increased at a high rate within 15 days and then decreased after that.

Key word : Soil Microbial

Efficiency of constructed wetland in reducing Copper and Chromium From Silk dyeing wastewater.

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Efficiency of constructed wetland in reducing Copper (Cu) and Chromium (Cr) from silk dyeing wastewater was studied.

The results showed that constructed wetlands could reduce Copper (Cu) and Chromium (Cr) in the range of 18.64 - 94.80% and 15.67 - 74.670 ; respectively . while in the control system, the results showed that could reduce Copper (Cu) and Chromium (Cr) in the range of 29.47 - 89.12 and 10.33 - 61.33 % ; respectively . The statistical analysis showed that the efficiency of constructed wetlands and Control system to treat Copper (Cu) and Chromium (Cr) was indifferent ($p>0.05$) . The two heavy metals were in accordance with the level allowed for wastewater the ministry of industry .

Key word : constructed wetland, Copper and Chromium

Methyl parathion residue in rice filed crab (*Somannaithelphusa dugasti*).

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The objective this study was to analyze methyl parathion remaining in rice field crab *Samannaitheephusadugasti).*Instudy field, pediside, Panadon consisting of 2.5% Methylparathion was applied. Five level of concentations were sparetedly introduced tofive rice fields,nosubstance input,half amount of the instucted rate and same amount of $LC5_0$ - 96h, raspectively.The residue was determine before methy parathion introduction and after methyl parathion introduction 1 day, 3 days, 5 days, 7 days and 14 days respectively.

Analysis of methyl parathion residue rice field crab was followed by period of time as before to fill methyl parathion in paddy field . In additionstudy in methyl parathion residue in paddy field water and soil.

From gas chromatography analysis found that methyl parathion was residue in water both irrigated rice field and rain rice field. The irrigated rice field , methyl parathion residue in water all of concentration until 7^{th} day. Gas chromatography analysis could not found methyl parathion residue in soil all of rice field.

Key word : Methyl parathion, rice filed crab

Treatment of Wastewater from Silk Dyeing bymeans of Evapotranspiration.

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Bullrush *(Cyperus lacustris)* was used in the treatment of wastewater from silk dyeing by means of evapotranspiration. Study in 2 seasons are raining and summer used in both the experiment and control . The result showed that in all treatments the amount of water loss were higher than that of the control. It was also found that the amount of water in summer were higher than that of raining.

Key word : Treatment of Wastewater,

Waste water effluent of Khonkaen Siam Makro Public Company Limited.

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Education of waste water quality of Khonkaen Siam Makro Public Company Limited, that have 7 tanks of waste water treatment in Anaerobic and Aerobic processes. In tanks 1-4 are Anaerobic Treatment, tanks 5-6 are Aerobic Treatment and the last was added by chlorine for killing parthogenin germ. The average of flow rate is 73.65 m^3/day, size of each tank was approximatly 480 m^3 and average Detention time is 7 day.

The result of parameters were pH, Biochemical Oxygen Demand: BOD, Suspended Solids: SS, Settleable Solids, Total Dissolved Solids: TDS, Sulfide and Oil and Grease pass the effluent standard of the building B except TKN which grow up because Anaerobic process of waste water treatment increase NO_3 .

Mixed Liquor Suspended Solids: MLSS and Mixed Liquor Volatile Suspended Solids: MLVSS in aeration tank have very low. Both have agreement, the efficiency of system low. the efficiency of system can treat BOD and Sulfide approximate 70-100 *0/o,* SS 40-69 % and TDS, Oil and Grease and Total Phosphorus 1-39 %.

Key word : Waste water effluent