

Thesis Title Studies on the toxicity effects and utilization of
 water-soaked leucaena

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ABSTRACT

Studies on the toxicity effects and utilization of water-soaked leucaena was carried out by determining the chemical compounds and toxicants in water-soaked leucaena and leucaena-soaked water. The acute toxicity of leucaena-soaked water, mimosine and tannin on Puntius gonionotus (Bleeker) fingerlings for the lethal concentration by using static bioassays under laboratory condition were performed.

Three experiments were conducted and the results showed that mimosine and tannin in leucaena leaves can be reduced up to 99.5-100% and 80-90% respectively by using simple water-soaking technique. The leucaena-soaked water became toxic due to the presence of mimosine and tannin. The LC_{50} value at the exposure time of 24, 48, 72 and 96 hours for differential concentration

solution of leucaena-soaked water, standard mimosine and standard tannin were 1.995, 1.883, 1.789 g/L, 182.60, 172.00, 169.50, 165.40 mg/L and 26.33, 25.16, 23.71, 20.33 mg/L respectively.

Generally, the quality of leucaena-soaked water was lower than the wastewater standard of The Office of National Environment Board. It also has tannin which is a toxic agent that give an adverse effect to the mortality of P. gonionotus.