

SUMMARY

The possibility of using water hyacinth (Eichornia crassipes) in improving the efficiency of treatment systems for effluents from latex concentrate factories, was investigated. Two types of effluents namely Type A (resulting from coagulation of High Ammoniated skim latex) and Type B (resulting from coagulation of skim latex where the preservation is TMTD-ZnO-Low NH_4) were investigated. A single unit treatment system of facultative type as well as twin unit treatment system of anaerobic + facultative type were used. Type A serum was diluted at 1:20 whilst Type B was diluted at 1:16 and both types were preconditioned for 10 days prior to introduction of plants. Trials were carried out for periods ranging from 9 days to 50 days and the retention time of both systems was 16 days. Highly satisfactory reductions in pollutant levels were obtained. COD reduction ranged from 72% to 92% in single unit system and from 80% to 84% in the twin unit system for Type A serum. BOD reduction ranged from 91% to 93% in single unit system and from 95% to 98% in the twin tank system for Type B serum. A 100% reduction in BOD level was obtained by both systems for both types of serum. A satisfactory reduction in Total solids contents was also obtained. The increases in nutrients levels of the plants at the end of the operation were quite remarkable for N, P, Na, K, and Mg ranging from 125% to 882%.