

Utilization of Farm Sediment to Improve the Sustainability of the Shrimp Farming Industry in Sri Lanka

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Abstract

The sediment management is one of the main interventions, identified to reduce the environmental and disease problems related to shrimp farming. At present accumulated sediments are used to repair or strengthen the bunds using dozers or dumped in the farm vicinity. These practices increase the possibility of disease occurrence and environmental problems. The present study explores the possibility of utilizing farm sediment as a fertilizer. Sediments samples were collected from ponds in different zones during the fallow period and were analyzed at the CIC laboratory for pH, OM%, EC, Ca, Mg, K, Total N%, P, S, Cu, Fe, Mn and Zn.

It is estimated that 15-20 tractor loads of sediment per acre is produced in a crop cycle. The volume of the sediment approximates to 405 m³ to 540 m³. There are no significant differences in chemical composition of sediments collected from different zones. pH, Cu, Mg, S, Fe and Mn levels are in optimum ranges to be used as a fertilizer according to the recommendation of CIC. Whereas Ca, K, P and Zn levels fluctuate around the optimum ranges. But it is in the levels greater than the critical level. Only the electrical conductivity is not in the favourable ranges.

Key words: Sediments, Fertilizers, Nutrients