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Treatment of turtle aquaculture effluent by an improved multi-soil-layer system

Key words:
Turtle aquaculture effluent,
Multi-Soil-Layering (MSL) system,
Sludge,
Microbial community diversity



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Turtle wastewater scenarios

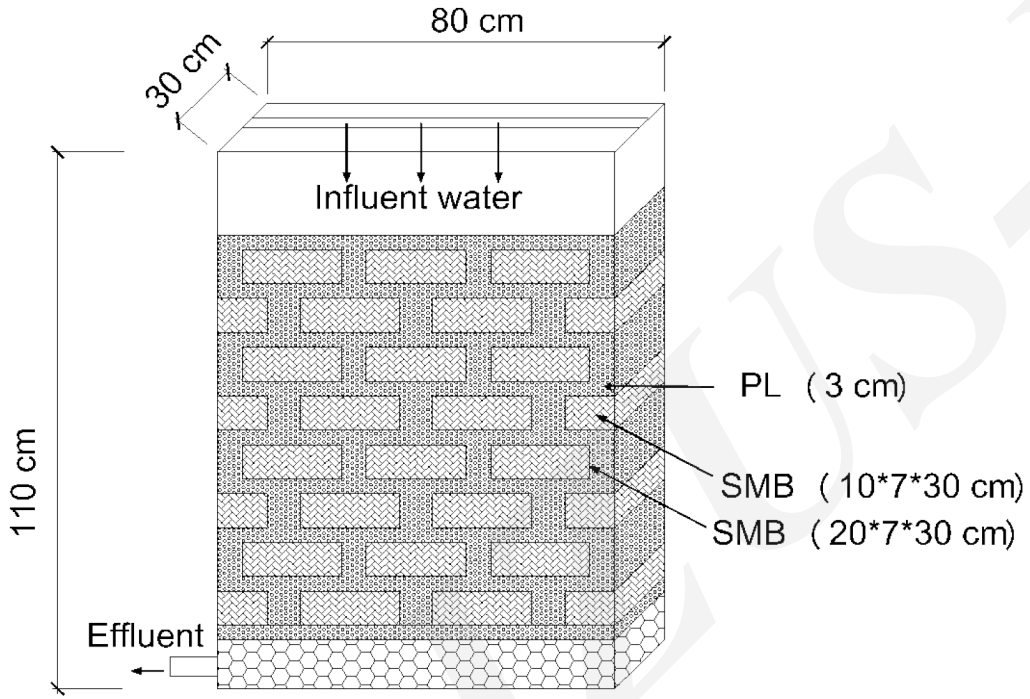
- At present, large quantity of wastewater containing high concentrations of ammonium, phosphorus and organic matter being released into rivers without any treatment . Several processes have been hampered by limited land space, high operational costs, complicated operations and maintenance.

- Several processes have been been hampered by high investments cost, complicated operations, large land occupation and so on.



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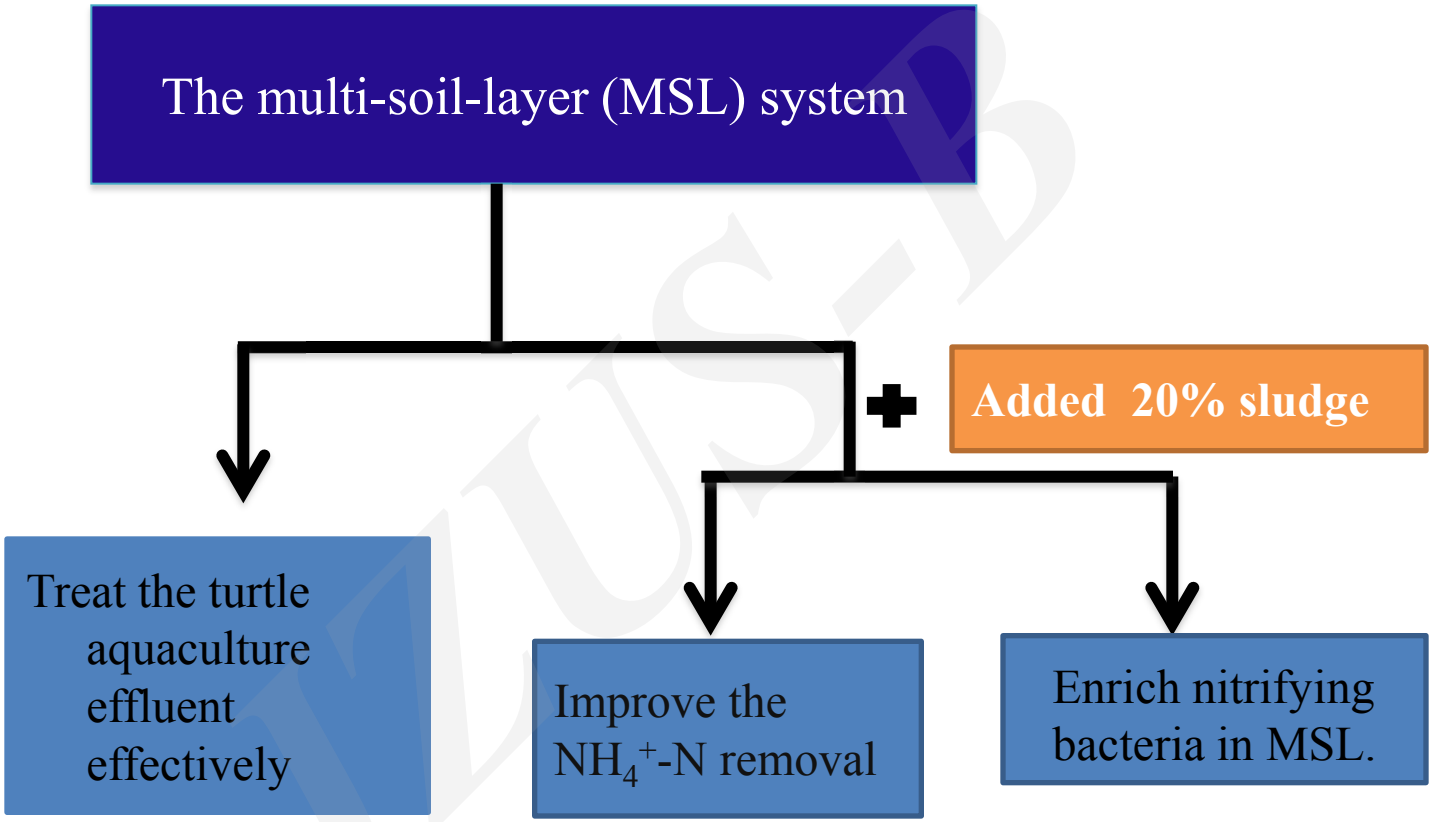
Basic structure of the MSL system



Schematic diagram of testing device

The MSL system is considered an efficient, cost–effective, small land occupation and easy operating technology for wastewater treatment (Chen et al., 2009).

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The multi-soil-layer (MSL) system
Added 20% sludge
Treat the turtle aquaculture effluent effectively
Improve the NH_4^+-N removal
Enrich nitrifying bacteria in MSL.