ABSTRACT

Experiment was set up in concrete pots in order to estimate the productivity and pollutant extractive abilities of monoculture of S.molesta and a mixed culture of S.molesta and P.stratiotes in spring, summer and monsoon seasons in different concentrations of municipal waste water. The results showed that the pH declined while EC,and BOO increased with the increase in waste water concentrations. Optimum temperature ranged 24°C-36°C in spring to monsoon season but high temperature 38°C -39°C in summer did not support growth of either species in the pots.Regenerative ability and biomass production in monoculture of S.molesta and mixed culture of S.molesta+ P.stratiotes increased in spring and monsoon seasons along with increase in concentration of waste water. During the spring season biomass and number S.molesta (mixed culture) was decreased, but in monsoon season P.stratiote. Necrosis rate decreased with gradual increase of municipal waste water. During the spring S.molesta was less productive than P.stratiotes and therefore the latter suppressed the growth of former in mixed culture. Whereas in the monsoon the pattern is reversed. Generally P.stratiotes shows better growth and efficent extractive potentials as compared to S.molesia but it appears that mixed culture can make the system more resilient as compared to monoculture because of seasonal dominance and differences in morphology of the two species.