SUMMARY

Isolation ,Screening , and Developing the Pesticide and Herbicide resistant Fluorescent *Pseudomonas* strains in Kuttanad region

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Agrochemicals especially herbicides and insecticides normally applied in agricultural practices are tested for their non-phytotoxicity to crop plants but little attention is given to their toxicity to non target microflora including plant associated beneficial plant associated beneficial microorganisms. Some of the herbicides are known to alter the microbial *niche* in the soil and thus ,several types of interaction are possible when a herbicide is introduced into the plant environment. The results strongly suggests that development of Pesticide and Herbicide resistant Fluorescent *Pseudomonas* is possible and the recent findings endorces our earlier findings that these organism not only develop resistance but also survives in the rhizosphere soil along with other beneficial microorganisams. Along with these observations it is confirmed that the organisms PRP5 and PRS3 isolated from the acidic fields can be potentially used as biocontrol agents in extreme soil condition.It also shows a correlation between growth fluorescent siderophore production of rhizosphere fluorescent Pseudomonads with root colonization that promotes plant growth and yield in the Herbicide and Pesticide applied green house as well as field soils.The results obtained through this investigation suggest the potential use of these strains for growth promotion and disease control with special reference herbicide and Pesticide applied acidic soils of Kuttanad.The development of Herbicide and Pesticide resistant organism were a promising field of biological control in perspective of increasing application of chemical agricultural inputs in paddy cultivating field in Kerala in general and Kuttanad in particular .