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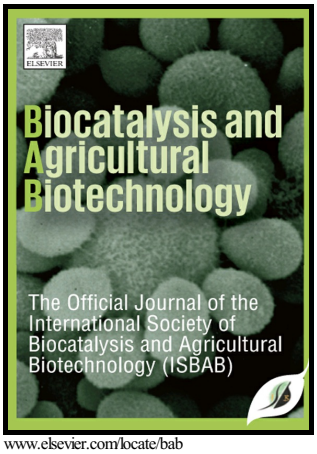

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Tolerance of wetland rice field's cyanobacteria to agrochemicals in cultural condition

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Abstract

The wetland rice fields are favorable for cyanobacterial growth, which play an important role in building soil fertility. Since agrochemicals are intensively being applied in rice fields to boost crop productivity, this study was undertaken to observe their effects on dominant N_2-fixing cyanobacteria i.e. filamentous, heterocystous *Nostoc linckia* and unicellular *Aphanothece pallida*. These cyanobacteria were isolated from flooded rice fields and used to find out the effects of urea N-fertilizer, herbicide benthiocarb and insecticide metacid (in isolation and combinations) on their growth and N_2-fixation ability. It was observed that *N. linckia* and *A. pallida* grew up to 25 days after inoculation (DAI) whereas acetylene reduction activity (ARA) increased up to 15 DAI in N-free medium without supplementation of agrochemicals in both cyanobacteria where *N. linckia* exhibited higher growth and ARA than *A. pallida*. Urea-N (30 ppm) was inhibitory for the growth of *N. linckia* whereas it stimulated the growth of *A. pallida*.