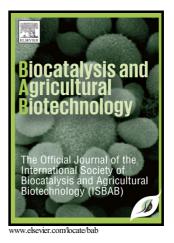
Author's Accepted Manuscript

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 PII:
 S1878-8181(17)30467-X

 DOI:
 https://doi.org/10.1016/j.bcab.2017.12.016

 Reference:
 BCAB682

To appear in: Biocatalysis and Agricultural Biotechnology

Received date: 11 September 2017 Revised date: 22 October 2017 Accepted date: 31 December 2017

Cite this article as: Manish Singh Kaushik, Ajay Kumar, Gerard Abraham and Pawan Kumar Singh, Tolerance of wetland rice field's cyanobacteria to agrochemicals in cultural condition, *Biocatalysis and Agricultural Biotechnology*, https://doi.org/10.1016/j.bcab.2017.12.016

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ACCEPTED MANUSCRIPT

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 N₂-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 N₂-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*.

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