
POTENTIAL OF *Nostoc* sp. AS A BIOFERTILIZER ON GROWTH AND YIELD OF PADDY - *Oryza sativa*

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Introduction

Fertilizers play a crucial role to enhance the crop growth as well as the crop production. Until the recent past, most of the farmers have been solely dependent on inorganic fertilizers. Over application of inorganic fertilizers leads to several problems such as different environmental and health issues [1]. The changing global and local socio-political conditions demand shift fertilizer usage from sole inorganic to other alternative ways.

Biofertilizers are the ecofriendly novel tools in agriculture. Microalgae act as nutrient-rich bio resources. Cyanobacteria, also known as blue-green algae, are one of the most popular prokaryotic groups that can photosynthesize and fix atmospheric nitrogen. Incorporating nitrogen fixing cyanobacteria which are rich in macro and micro nutrients to the paddy fields would enhance the productivity, thus it would provide sustainable and ecofriendly solutions to the prevailing fertilizer related issues in paddy cultivation. However, cultivation of cyanobacteria also requires medium which demands chemicals. There has been research on cultivation of different cyanobacteria in a range of waste water [2].

In this background, this current study was conducted with the overall objective of assessing the potential of cultivating *Nostoc* sp. in kitchen wastewater and use the fresh biomass in combination with either Department of Agriculture (DOA) recommended inorganic or organic fertilizer on the growth and yield of paddy.