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## Abundance of Cyanobacteria from Partially Flooded Sugarcane Fields of Shirol Taluka, District Kolhapur

Vijay B. Shirolkar<sup>1</sup> and D. S. Suryawanshi<sup>2</sup>

Faculty of Life Science, Br. Balasaheb Khardekar College, Vengurla. Sindhudurg<sup>1</sup> Department of Botany, Jawahar Arts, Science and Commerce College, Andur, Tuljapur, Osmanabad<sup>2</sup> dssuryawansi@gmail.com and shirolkarv8@gmail.com

Abstract: Sugarcane is major cash crop of Shirol taluka. Huger works on Cyanobacteria that involve in recycling of nutrients makes major role the economy of soil and growth of crop. Algae play an important role in the economy of soil. The result of the present study shows satisfactory algal diversity found in partially flooded sugarcane fields in all regions. Algae nowadays are exploited to tackle the major problems such as food, fuel, soil fertility, sanitation, pharmaceutical and health problems (Prasad, 2008). Number of researcher's works about roles of blue green algae on growth of various crops. Every year more or less occurrence of heavy rainfall especially in Kolhapur, Sangli and Satara districts in the month of July & August creates intense flood situations in study area. Floods have extremely long durations so heavy losses of life, properties & crops were noteworthy. The study area faces more or less flood situations creates three sugarcane agronomic zones as completely flooded (CFLD) ,partially flooded (PFLD) and non-flooded (NFLD) fields are effecting on flora and fauna of the field responsible for productivity of the crop plants. During the investigations an average cyanobacteria encountered in partially flooded fields from Shirol taluka than flooded and non-flooded fields. It revealed the presence of four groups consisting of 122 species belonging to 58 genera of microalgae.

Keywords: Sugarcane, Cyanobacteria, Food soil fertility, Shirol

## REFERENCES

- Desikachary, T.V. 1959. Cyanophyta. New Delhi: Indian Council of Agricultural Research. 686 pp. De, P.K. 1939. The role of blue-green algae in nitrogen fixation in rice fields. Proceeding of the Royal Society of London. Series B 127: 121–139.
- [2]. Eavis BW (1972). Effects of flooding on Sugarcane growth.1. Stage of growth and duration of flooding. Proc. Int. Soc. Sugar Cane Technol., 14: 708-71.
- [3]. Fish, S.A. & Codd, G.A. 1994. Bioactive compound production by thermophilic and thermo tolerant cyanobacteria (blue-green algae). World Journal of Microbiology and Biotechnology 10:338–347.
- [4]. Irvine, J.E. (1983) Sugarcane. In: Potential Productivity of Field Crops under Different Environments. [International Rice Research institute Los Banos. Philipprnes. 361-382.
- [5]. Karthikeyan, N., Prasanna, R., Nain, L. & Kaushik, B.D. 2007. Evaluating the potential of plant growth promoting cyanobacteria as inoculants for wheat. European Journal of Soil Biology 43: 23–30.
- [6]. Kaushik, B.D. 2007. Cyanobacterial biofertilizer technology. Pp. 53–59. In: S. Kannaiyan, K. Kumar & K. Govindarajan (eds). Biofertilizers technology. Scientific Publishers. India.
- [7]. Maqubela, M.P., Mnkeni, P.N.S., Malamissa, O., Pardo, M.T. & Acqui, L.P.D. 2008. Nostoc cyanobacterial inoculation in South African agricultural soils enhances soil structure, fertility and maize growth. Plant and Soil 315: 79–92.
- [8]. Misra, S. & Kaushik, B.D. 1989a. Growth promoting substances of cyanobacteria I. Vitamins and their influence on rice plant. Proceeding of the Indian Science Academy B55: 295–300.
- [9]. Misra, S. & Kaushik, B.D. 1989b. Growth promoting substances of cyanobacteria II. Detection of amino acids, sugars and auxins. Proceeding of the Indian Science Academy B55: 499–504. Prescott, G.W. 1970. Algae of the



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western great lakes area. WM. C. Brown Company Publishers. 977 pp.

[10]. Rangaswamy, G. 1996. Agricultural microbiology. Asia Publishing House, Bombay, p. 54–76. Saadatnia, H. & Riahi, H. 2009. Cyanobacteria from paddy-fields in Iran as a biofertilizer in rice plants. Plant Soil Environment 55(5): 207–212.