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Programme & Abstract Book

International Conference on Photobiology, Photochemistry & Plant Biotechnology

and felicitation function of Prof. Reto J. Strasser and Prof. Satish C. Maheshwari

8th - 9th May 2019

Udaipur, Rajasthan, India

International Conference on PHOTOBIOLOGY, PHYTOCHEMISTRY & PLANT BIOTECHNOLOGY

& Felicitation Function of
Prof. Reto J. Strasser & Prof. Satish C. Maheshwari

08-09 May, 2019

Keynote Speaker

Prof. Dr. Reto J. Strasser
Professor Emeritus
University of Geneva, Switzerland

Keynote Speaker

Prof. Satish C. Maheshwari
Professor Emeritus, Delhi University
New Delhi, India

Plenary Speakers	
Prof. R.P. Sharma	Professor, Department of Plant Sciences University of Hyderabad, Hyderabad (AP)
Prof. Ashwani Pareek Prof. Arvind K. Purohit	Visitor`s Awardee- 2018 by Honorable President of India , School of Life Science, Jawaharlal Nehru University, New Delhi Professor Emeritus of Plant Physiology, SK Rajasthan Agriculture University, Bikaner
Prof. Ashwani Kumar	Humboldt Fellow, Germany, Professor Emeritus of Botany, RU, Jaipur
Prof. Sneh L. Singla-Pareek	Group Leader- Plant Biotech group, International Centre for Genetic Engineering and Biotechnology, New Delhi
Prof. K.G. Ramawat	Former Professor, Dept of Botany Mohanlal Sukhadia University, Udaipur
Prof. S.D. Purohit	Former Professor, Dept of Botany Mohanlal Sukhadia University, Udaipur
Dr. Kavya Dashora	Indian Institute of Technology , New Delhi

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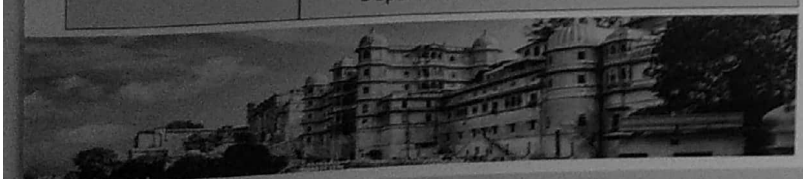

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Plant Bioenergetics & Biotechnology Laboratory, Dept of Botany
MLS University, Udaipur -313001, INDIA, Mob +91 7665559662

Hydroponic based technique, a rapid method of screening for phosphorus use efficient maize genotypes

Krishan Kumar, G. Gambhir, A. K. Jha, P. Sharma, B. Kumar, S. Rakshit
ICAR-Indian Institute of Maize Research, Ludhiana 141004

Low phosphorus availability poses major constrain to crop yield in many Indian soil types (acidic, alkaline and calcareous). Therefore, modern cereal genotypes, like, the single cross maize hybrids is dependent on external application of high dose of phosphate for optimum production. Plants are capable of utilizing only less than 20% of the applied phosphorus and unutilized phosphate results in environmental degradation via algal bloom and eutrophication. Therefore the development of maize hybrids having high phosphorus use efficiency (PUE) may significantly contribute toward sustainable maize production with low environmental footprint. High PUE hybrids can be developed if we have high phosphate use efficient inbred lines for hybrid development. In this endeavor, a hydroponic based method of screening for low phosphate stress tolerance in tropical maize has been standardized by changing concentrations of various nutrients in Hoagland' solution. Forty inbreds were evaluated for PUE using optimized hydroponic culture under glass house condition. Maize inbreds were grown hydroponically under optimum (1mM KH2PO4) and deficient (5µM KH2PO4) phosphate conditions for 22 days. The solution was regularly aerated by aquarium pumps and was replaced after every 3 days. Plants were harvested and observations were recorded on all important shoot and root physiological parameters, viz., fresh weight, dry weight, length, stem girth, shoot:root ratio etc. On the basic of phosphorus deficiency symptoms and physiological data, high (BML-5) and low (BML-10) PUE lines were identified. The phosphate content in high PUE line root and shoot was 0.155 and 0.068 µg P/g of dry weight biomass, respectively, in phosphate stressed condition. However, in low PUE line it was 0.033 and 0.022 µg P/g of dry weight biomass in root and shoot, respectively, in phosphate stressed condition. High PUE line could be utilized in breeding programme for developing PUE hybrids and to study molecular mechanisms playing role for phosphate stress tolerance.

Influence of power plants on cyanobcterial biodiversity in freshwater

Leena Choubisa, Anuradha (Sharma) Dubey
Department of Botany, School of Science & Technology, Vardhman Mahaveer Open University, Kota (Rajasthan)

Cyanobacteria are the prokaryotic photosynthetic organisms also known as blue green algae because of the prominent photosynthetic pigment phycocyanin. These are the most primitive organisms residing on the earth in different environments. Power plants situated on the bank of rivers utilize their waters for the cooling purpose. The water is then heated in turn and released back to the source. Heated waters may have serious consequences on the aquatic environment. It may lead to eutrophication, reduce dissolved oxygen of water, may change the community structure of aquatic organisms and may even lead to loss of biodiversity. Phytoplanktonic cyanobacteria form the first trophic level of an aquatic ecosystem which makes them prone to being firstly affected by any change in the aquatic environment. These changes may be used as a tool to study any of the changes occurring in the environment and may be helpful in conservation of biodiversity.