

Key take away points from the talk on "Nitric oxide signaling and its role in hypoxia tolerance in rice" by Dr. Jagadis Gupta Kapuganti

Dr. Jagadis Gupta Kapuganti, a Staff Scientist VI at the National Institute for Plant Genome Research (DBT-NIPGR), New Delhi, delivered a talk on "**Nitric oxide signaling and its role in hypoxia tolerance in rice**" in the forenoon of March 15th in the committee room of the institute. The webinar (hybrid mode) was chaired by Dr. RM Sundaram, Director IIRR. Director in his opening remarks stressed the importance of Nitric oxide as a signalling molecule. Dr. Kalyani MB, a Scientist (Biotechnology), introduced Dr. Kapuganti to the audience and served as a moderator for this session.

During the presentation, Dr. Kapuganti highlighted the importance of nitric oxide (NO) in protecting mitochondria and the role of the phytooglobin-NO cycle in promoting rice growth under deep water conditions. His talk was well appreciated as it detailed the various methodologies that lead to the proof of concept wherein the importance of NO signaling was very much evident. One key takeaway was the revelation that anoxia triggers the release of NO, which in turn stimulates ATP synthesis, ultimately enabling rice plants to survive under anoxia-induced stress. This can be mitigated by application of Nitrites. However, further research is needed to fully understand the role of NO in submergence tolerance, biotic stress tolerance with special reference to nematode and in direct seeded rice (DSR).

Following the presentation, Dr. Sundaram and Dr. Kapuganti discussed potential future collaborations in this area. Dr Papa Rao V and Dr Akshay Sakhare served as rapporteurs and recorded the proceedings. The event concluded with closing remarks from the Director and a vote of thanks from Dr. AP Padmakumari, PS(Entomology).

