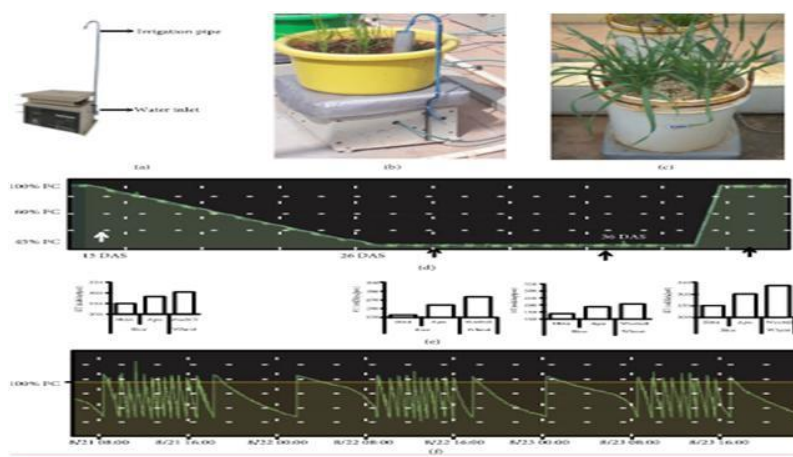


## Scientist at RCB found that acquired traits contribute more to drought tolerance in wheat than in rice

Researchers at DBT's Regional Centre for Biotechnology (RCB) Faridabad reports a comparative assessment of "acquired drought tolerance (ADT)" traits in two rice cultivars, IR64 (drought susceptible) and Apo (tolerant), and a drought-tolerant wheat cultivar, Weebill. On exposing young seedlings to progressive concentrations of methyl viologen (MV), a stress inducer (before transferring to a severe concentration), higher tolerance and recovery growth than seedlings exposed directly to severe stress was observed. The wheat cultivar showed lower levels of damage and higher recovery growth even compared to Apo.



Expression of ROS-scavenging enzymes and drought-responsive genes was significantly higher in Apo than in IR64, but differences were only marginal between Apo and Weebill. The wheat cultivar showed significantly higher stomatal conductance, carbon gain, and biomass than the rice cultivars, under drought. These differences in ADT traits between cultivars as well as between species can be utilized for improving drought tolerance in crop plants.

Constitutive and acquired traits, which have relevance for sustaining crop productivity, are governed by drought tolerance. Mild levels of stress induce specific mechanisms that protect metabolism when stress becomes severe. Research findings have been published in journal *Plant Phenomics*.

Link: [https://www.rcb.res.in/index.php?param=research/2020\\_p](https://www.rcb.res.in/index.php?param=research/2020_p)

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