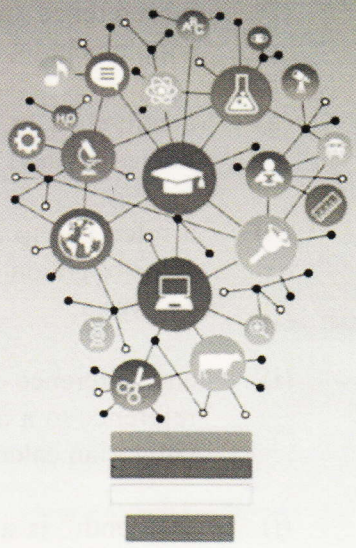
PROCEEDINGS

JOINT SYMPOSIUM OF THE 8TH INTERNATIONAL AGRICULTURE CONGRESS 2018 AND 6TH INTERNATIONAL SYMPOSIUM FOR FOOD & AGRICULTURE 2018 (8TH IAC-6TH ISFA 2018)

SHAPING THE FUTURE THROUGH AGRICULTURE INNOVATION



13-15 NOVEMBER 2018

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JOINT SYMPOSIUM OF THE 8TH INTERNATIONAL AGRICULTURE CONGRESS 2018
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"SHAPING THE FUTURE THROUGH AGRICULTURE INNOVATION"

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POSTER **P64**

ARBUSCULAR MYCORRHIZAL FUNGI IMPROVES GROWTH OF AEROBIC RICE UNDER WATER DEFICIT SOIL CONDITION.

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Water deficit adversely affect growth and yield of aerobic rice. A pot study was carried out in a glass house to determine the effect of arbuscular mycorrhizal fungi (AMF) in alleviating water stress condition in aerobic rice. MRIA 1 and MR219-4 rice varieties were used with two watering intervals of 4 and 12 days, with and without mycorrhiza inoculation. The experiment was arranged in a randomized complete block design (RCBD) with 5 replications. Results showed that, plant shoot dry mass were significantly higher with AMF inoculation compared to without AMF at both 4 and 12 days watering intervals. MR219-4 showed better growth compared to MRIA 1. At 12 days watering interval, both varieties showed a reduction in growth and yield compared to 4 days watering interval. Application of AMF showed improvement in biomass of MRIA 1 and MR219-4 varieties by 31% and 6% respectively over the non mycorrhizal plants. Relative water content (RWC) was affected by both water stress and AMF inoculation. Lower values of RWC were obtained at 12 days watering interval. Differences in RWC were observed between the rice varieties. MRIA 1 had 9% improvement in RWC of mycorrhizal plants while MR219-4 had 3%. In mycorrhizal plants, grain number improved by 43% per plant in MRIA 1 and 71% per plant in MR219-4 at 12 days watering interval. MR219-4 had higher biomass and yield values at both watering intervals proving it's resistance to water stress compared to MRIA 1. Mycorrhizal plants improved growth and yield of both aerobic rice varieties compared to non-mycorrhizal plants. Mycorrhizal inoculation could be a sustainable method to alleviate water stress and improve yield in aerobic rice varieties.