Role of Mycorrhizal Fungi as a Biofertlizer for Wheat under Drought Condition. (S03-kandil232903-Oral)

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Abstract:

Environmental pollution concern has increased farmers' interest to use biofertilizers. This study examined how arbuscular mycorrhizal fungi (AM) as a Biofertilizer affect wheat growth (Triticum vestium) under drought conditions in egyptian calcareous soils. Three water regimes (75%, 50%, and 25% of water holding capacity,WHC), two P sources (superphosphate (SP) and rock phosphate (RP), 60 ppm) and 1 % Compost (OM) were used were evaluated in a greenhouse experiment. VAM inoculation significantly increased plant dry weight (DW) and N and P-uptake. Compost gave the highest response in shoot DW either with or without AM. The highest mycorrhizal dependency (MD) of shoot DW was 51.9 relative to noninoculated (NI) control. The highest MD of P-uptake was 90.3% at 50% WHC vs NI control. AM inoculation significantly increased alkaline phosphatase activity in soil rhizosphere especially with RP. Addition of OM and SP inhibited root infection %. In general, AM with compost stimulated wheat growth under drought conditions.

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