



ChemTech

International Journal of ChemTech Research

CODEN (USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555
Vol.10 No.2, pp 156-162, 2017

The Foliar Application of Exogenous Antioxidant for increasing Drought Tolerance in Soybean

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Abstract : The objective of the research was to identify strategies for increasing soybean production in the dry lands through exogenous antioxidant role, in order to increase soybean production in the dry lands and to identify the role of exogenous antioxidants to changes in reactive oxygen species soybean on drought stress. The research used a randomized block design with 2 factors and 3 replications. The first factor was drought stress treatment namely 80%, 60% and 40% of field capacity. The second factor was foliar application of antioxidant exogenous consisted of without antioxidant ; salicylic acid 500 ppm, ascorbic acid 500 ppm, α -tocopherol 500 ppm and chitosan 500 ppm. The results suggest that increased drought stress (80-40% of field capacity) increased the total soluble protein, superoxida dismutase (SOD), peroxidase (POD) and H_2O_2 . Foliar application antioxidant increased the total soluble protein, SOD, POD and H_2O_2 as compared to without the application of antioxidants.

Keywords : antioxidant exogenous, foliar application, soybean.

Yaya Hasanah *et al* /International Journal of ChemTech Research, 2017,10(2): 156-162.
