

**RESPONSE OF PANIC GRASS  
"PANICUM ANTIDOTALES" TO SALINITY  
AND SOIL AMMENDMENTS UNDER  
RAS SUDR CONDITIONS**

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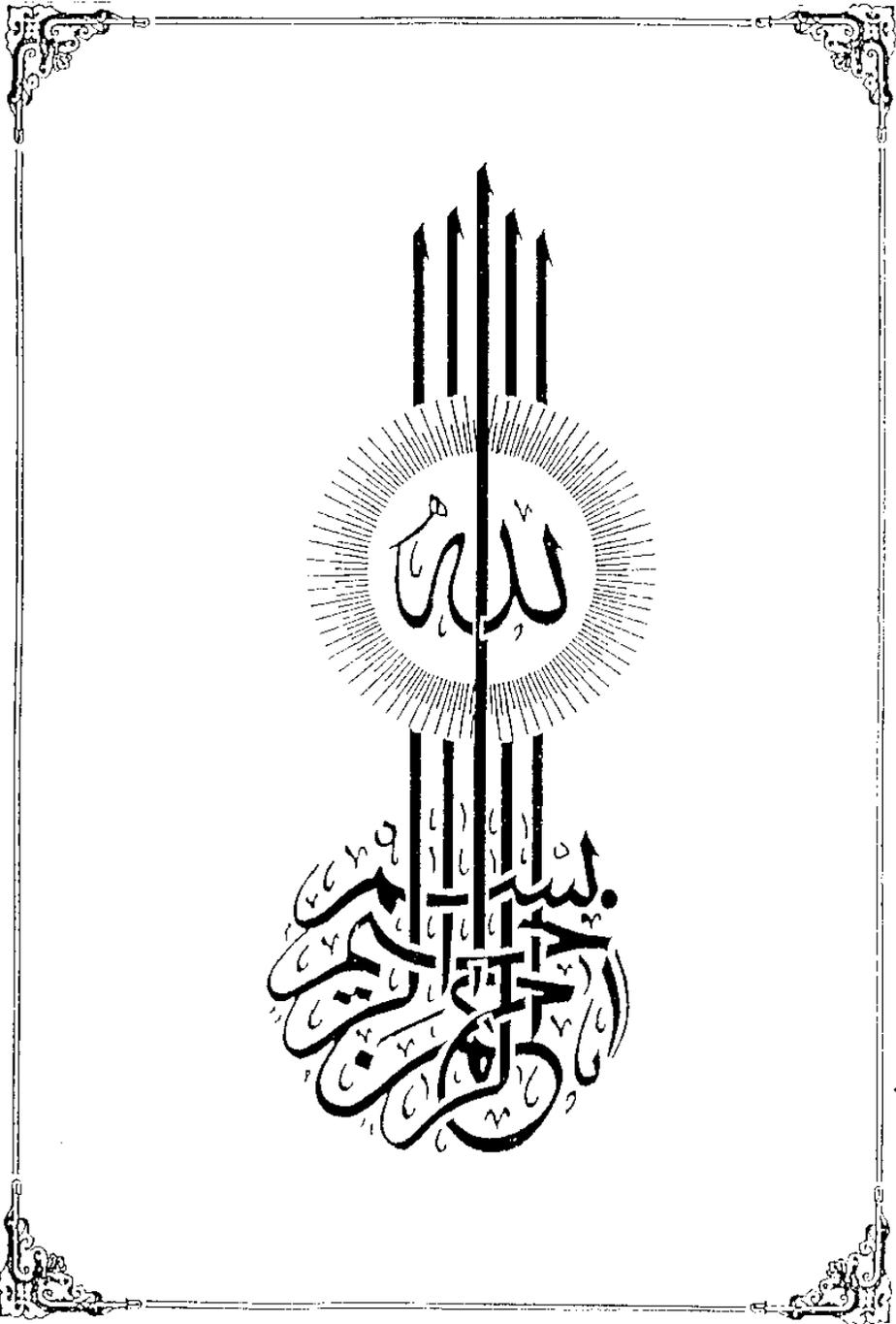
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## APPROVAL SHEET

### RESPONSE OF PANIC GRASS "*PANICUM ANTIDOTALE*" TO SALINITY AND SOIL AMENDMENTS UNDER RAS SUDR CONDITIONS

BY

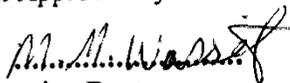
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## ABSTRACT

Eman Mohamed Fawzy El-Saidy, Response of Panic Grass "*Panicum antidotale*" to salinity and soil amendments Under Ras Sudr conditions. Unpublished Doctor of Philosophy, Agronomy Department, Faculty of Agriculture, Ain Shams University, 1999.

Two field trials were carried out in extended 1997 and 1998 growing seasons at Wadi Sudr Experimental Station, Desert Research Center on blue panic (*Panicum antidotale*). The trials were designed to evaluate the response of panic plants to water irrigation salinity and different levels of powder elemental sulfur or organic manure and their combinations.

The data indicated that plant height, tillers number and flag leaf area were slightly affected by sulfur dose. Whereas, these parameters were increased by advancing cut till the third one being higher under low water irrigation salinity than high one and in the second season comparing to the first one. The fresh and dry yields were positively related to sulfur or organic manure doses till 1.5 t/fad and 20 m<sup>3</sup> respectively whereas, the total forage yield was increased significantly reaching its maximum value at 1.5 t/fad sulfur or 40 m<sup>3</sup> organic manure/fad. The results were higher in the second season than the first one and under low than high water irrigation salinity.

In addition, the fresh and dry yield of plant parts were markedly increased at the third cut comparing to the other ones. The data elucidate significant high values of crude protein, total carbohydrates and crude fibers due to applying

1.5 t S/fad. Their concentrations of crude protein, crude fibers, ether extract and ash were higher in leaves than stems. The water irrigation salinity had effects considerable on chemical composition of leaves and stems.

The interaction between organic manure and sulfur showed that 20m<sup>3</sup> organic manure + 1.5 t sulfur/fad, 40 m<sup>3</sup> organic + 1.5 t sulfur/fad were the best interactions to maximize the yield and biochemical content of panicum plants, respectively.

**Key words:**

*Panicum antidotale*, Salinity, Soil amendments,  
Sulfur, Organic manure

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