



## Effect of sulphur fertilization on growth and yield parameters of rice (*Oryza sativa* L.)

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### SUMMARY

A study was conducted in Kalghatgi taluk of Dharwad district, during the year 2001-2002 to study the effect of sulphur fertilization on growth and yield parameters of rice (*Oryza sativa* L.) involving the sulphur applied in soil at different doses 15, 30, and 40 kg S/ha, through SSP to find out the best combination for attaining results revealed that various levels of sulphur applied soil, with the four treatment combination. the maximum grain (3483 kg ha<sup>-1</sup>) and straw yield (5413 kg ha<sup>-1</sup>) was recorded at 40 kg S/ha were at par with that 15 kg S/ha, the per cent increased in tillers was 5.37, 8.56 and 9.35 at 15, 30 and 40 kg S/ha, respectively, over control.

Shailendra Kumar, G., Gali, S.K. and Ravi, S. (2011). Effect of sulphur fertilization on growth and yield parameters of rice (*Oryza sativa* L.). *Asian J. Soil Sci.*, 6(2): 227-229.

**KEY WORDS :** Sulphur, Rice, *Oryza sativa* L., Grain, Straw

**R**ice (*Oryza sativa* L.) is one of the important staple food crop of the world and ranks only next to wheat, rice occupies an important place in Indian economy too. Besides, being a potential source of food for human beings, it is used in industries for the production of starch, syrup and alcohol etc. In India, rice is grown over an area of 43 million hectares with a production of about 86.0 million tonnes at productivity of 2.6 tonne per hectare (Anonymous, 2000). In Kamataka, it occupies an area of 10.48 lakh hectares with a production of 28.14 lakh tonnes and an estimated average yield of 2.8 tonnes per hectare (Anonymous, 1996).

Role of sulphur in rice is an essential component in the synthesis of amino acids required to manufacture proteins, production of chlorophyll and utilization of phosphorus and other essential nutrients, helps in optimizing crop yield and quality, crops that have high nitrogen must have adequate sulphur to optimize nitrogen

### EXPERIMENTAL METHODS

The experiment was laid out in randomized block design with four treatments levels of sulphur (SSP as sulphur), replicated five times, plot size 3800 sq.mts during 2001-2002 at Dummavada village, Kalagatagi taluk. The

initial soil properties was clay-loam in texture, acidic in reaction (pH 5.17) with low electrical conductivity (0.40 dSm<sup>-1</sup>) and medium in organic carbon (0.57 %), the soil was medium in available nitrogen (326 kg/ha), phosphorus (35.5 kg/ha) and potassium (286.65 kg/ha) but it was low in available sulphur (9.0 ppm). The data on the sulphur fractions revealed that the soils contained 510 ppm of total sulphur of which non-sulphur accounted for 322 ppm followed by organic sulphur (160 ppm), total water soluble sulphur (19 ppm) and observations were taken on growth, dry and yield parameters per plot was also recorded at harvest.

### EXPERIMENTAL FINDINGS AND ANALYSIS

The results obtained from the present investigation as well as relevant discussion have been presented under following heads :

#### Growth parameters (Table 1):

*Number of tillers per square meter area:*

The number of tillers per square meter area increased due to sulphur application. The increase in number of tillers was significantly higher due to 15 kg S ha<sup>-1</sup> over no sulphur, however, the number of tillers at 30 and 40 kg S ha<sup>-1</sup>

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