



Research Article

Effect of microgranular sulphur on nutrient uptake, soil properties and yield of banana

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Summary

The field experiment to study the effect of microgranular sulphur (Cosavet Ferits WG) on soil properties, nutrient uptake, growth and yield parameters of banana was undertaken at Banana Research Station, Jalgaon during the years 2007 to 2009. Application of sulphur @ 12 g plant⁻¹ through Cosavet Fertis (WG) in two splits recorded significantly higher no. of hands per bunch, maximum bunch weight and yield over control. Application of sulphur @ 9 g plant⁻¹ through Cosavet Fertis (WG) in two splits recorded 137 fingers per bunch, 19.6 kg bunch weight and 87.0 t ha⁻¹ yield which was found at par with application of sulphur @ 12 g plant⁻¹ through Cosavet Fertis in two splits. Lower soil pH and EC were reported in the treatments where sulphur was applied through Cosavet Fertis (WG). Higher nutrient uptake was recorded in the treatment of sulphur @ 12 g plant⁻¹ through Cosavet Fertis (WG) in two splits.

Key words : Banana, Sulphur, Nutrient uptake

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Introduction

The sulphur is now recognized as the 4th major plant nutrient, along with nitrogen, phosphorus and potassium. Sulphur is crucial for the formation of amino acids like methionine and cystine, which involved in protein synthesis. Sulphur is actively redistributed in plant body of banana from old to young leaves. The most rapid uptake of sulphur occurs between the sucker and shooting stage. After shooting, the rate is reduced and sulphur needed for fruit growth comes from the leaves and pseudostem (Shikhamany and Patil, 2007). One ton of banana is estimated to remove 0.8-1.4 kg S for satisfactory production (Bhalerao, 2009).

Presently, sulphur deficiency is widespread in Indian soils and is rising continuously. In banana, sulphur deficiency causes stunted growth and smaller bunch size. Management practices such as increased cropping intensity, introduction of high yielding varieties, use of sulphur free fertilizers like

urea, DAP, MOP, lack of organic manure addition, lesser crop residue recycling etc. are causing much adverse effects on the availability of sulphur and have lead to greater removal and depletion of sulphur from soil. A balanced fertilizer management practice is thus, imperative to mitigate the effect of sulphur deficiency. Information regarding use of sulphur for banana under Maharashtra condition is very scanty. Hence, the present investigation was undertaken to study the effect of microgranular sulphur (Cosavet Ferits WG) on soil properties, nutrient uptake, growth and yield parameters of banana cv. GRAND NAINA.

Resources and Research Methods

A field experiment was conducted during 2007-2008 and 2008-2009 at Banana Research Station, Jalgaon. The soil was medium black having pH 8.16, electrical conductivity (EC) 0.36 dSm⁻¹, organic carbon 0.40 per cent, available nitrogen 230 kg