

Research
Paper

Response of Sesamum (*Sesamum indicum* L.) to different levels of potash and sulphur under south Saurashtra region

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ABSTRACT

A field experiment was conducted during *Kharif* season of 2008 at the Instructional Farm, Junagadh Agricultural University, Junagadh to study the response of sesamum (*Sesamum indicum* L.) to different levels of potash and sulphur under south saurashtra region. Result of the experiment revealed that an application of potash @ 50 kg ha⁻¹ recorded significantly higher yield attributes and yield, quality parameters, nutrient uptake by seed and economics *i.e.* number of capsules per plant (39.17), length of capsule (2.30 cm), number of seeds per capsule (57.13), seed weight per plant (3.94 g), test weight (2.96 g) Seed yield (813 kg ha⁻¹) and Stover (1165 kg ha⁻¹). Similarly sulphur application @ 40 kg ha⁻¹ recorded significant effect in increasing all these yield attributes and yield, quality parameters, nutrient uptake by seed and economics of sesamum.

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Key words : Sesamum, Potash, Sulphur, Yield, Quality, Economics

INTRODUCTION

Sesamum indicum L. (Syn. *Sesamum orientale* L.), which is known variously as *sesamum*, *til*, *gingelly*, *simsim*, *gergelim* etc. is one of the most important oilseed crop grown extensively in India. Sesamum is the oldest indigenous oil plant with longest history of its cultivation in India. India is still the world leader. India, China, Burma, Sudan, Pakistan and Mexico are the main sesamum producing countries of the world. In India, sesamum is an important edible oilseed crop, stands next to groundnut. It is mainly grown in Gujarat, Uttar Pradesh, Madhya Pradesh, Karnataka, Orissa, Bihar, Jharkhand, Andhra Pradesh, Kerala and Tamil Nadu.

Fertilizers, even though comparatively a costly input of production are essential for securing higher yields. The prudent use of fertilizers with appropriate method and time of application are the prime importance in securing higher and economic yields. The potassium is one of the major plant nutrients for the growth and development of plants. The major functions are enzymes involved in

photosynthesis, metabolism of carbohydrate and protein. The potassium also improve crop quality and yield characteristics by increasing disease resistance in a number of crops. Sulphur as a plant nutrient can play a key role in augmenting the production and productivity of oilseeds in the country as it has a significant influence on quality and development of oil seeds.

MATERIALS AND METHODS

A field experiment was conducted during *Kharif* season of 2008 at the Instructional Farm, Junagadh Agricultural University, Junagadh to study the response of sesamum (*Sesamum indicum* L.) to different levels of potash and sulphur under south saurashtra region. The soil of the experiment field was clayey in texture, medium in available nitrogen (266.5 kg ha⁻¹), medium in available phosphorus (38.3 kg ha⁻¹), available sulphur (19.85 kg ha⁻¹) and fairly rich in available potassium (232.4 kg ha⁻¹) with 7.9 pH. Nine treatment combinations comprising three levels of potash *viz.*, no potash (K₀), 25