



Influence of different levels of potash and sulphur on yield attributes and yield of sesamum (*Sesamum indicum* L.) 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 *i.e.* number of capsules per plant (39.17), length of capsules (2.30 cm) and number of seeds per capsule (57.13) which resulted in significantly highest seed yield (813 kg ha⁻¹) and stover (1165 kg ha⁻¹) yields. Similarly sulphur level also recorded significant effect in increasing all these yield attributes and yield. Sulphur application @ 40 kg ha⁻¹ produced significantly higher yield attributes and seed yield (804 kg ha⁻¹) and stover (1146 kg ha⁻¹) yield over other treatments.

KEY WORDS : Sesamum, Potash, Sulphur, Yield attributes and yield

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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 with the maximum production (25.8%) from the largest area (29.3%) and highest export (40%) of sesamum in the world. 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 cultivated in an area of about 17.2 lakh hectares with production of 8.00 lakh tonnes of seeds and productivity of 421 kg ha⁻¹. 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 is also improved 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 kg K₂O ha⁻¹ (K₁), 50 kg K₂O ha⁻¹ (K₂) and three levels of sulphur

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