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RESPONSE OF SESAMUM VARIETY KAYAMKULAM-1 TO GRADED DOSES OF PHOSPHORUS AND POTASH IN THE RED LOM SOILS OF VELLAYANI

Sesamum is extensively grown in the *Onattukara* region of Kerala State. As the nutritional requirements of this crop has not been systematically studied in detail, an experiment has been conducted at the College of Agriculture, Vellayani during 1975 and 1976-77 to assess the influence of phosphorus and potash on sesamum crop with a view to fixing the doses of these nutrients.

The soil of the experimental site is red loam analysing 0 074% nitrogen, 0.0049% available phosphorus and 0.0043% available potash with a pH of 5.7. The sesamum variety *Kayamkulam* - I was used for the experiment. The treatments consisted of four levels of phosphorus (0, 15, 30, and 55 kg P_2O_5/ha) and four levels of potash (0, 15, 30, and 45 kg K_2O/ha). The experiment has laid out in randomised block design with three replications. A uniform does of 30 kg N/ha was applied in two equal split doses, viz, 50% as basal and the balance as foliar spray at *2%* concentration, 30 days after sowing. Phosphorus and potash were applied as basal dose according to the treatments. Prophylactic plant protection measures were taken against pest and diseases. The data on the effect of treatments on seed yield are given in Table I.

It is seen from the data that neither the effect of phosphorus, nor the effect of potash was significant in increasing the seed yield of sesamum. But in both the years the treatment combination of 15kg each of P_2O_5 and K_2O per hectare has given the highest seed yield. However, phosphorus and potash beyond 15 Kg each/ha have suppressed the seed yield in both the years. Sivappah and Raj (1971) observed such depressing effect of potash in sesamum. Steward (1947) also reported reduction in the yield of sesamum on account of potash application at higher levels.

ഫോസ്ഫറസിന്റേയും,

1975–ലും തുടർന്നു് 1976–77 ലും നടത്തുകയുണ്ടായി. പരീക്ഷണത്തിൽനിന്നും വെള്ളായ നിലവിലുള്ള പരിതസ്ഥിതിയിൽ എള്ളിനു് ഹെക്ടറൊന്നിനു് 15

Table 1 Seed yield of sesamum

Treatments	Seed yield in kg/ha	
	1975	1976—77
levels of Phosphorus		
0 kg P_2O_5/ha	287.020	233.910
15 kg P_2O_5/ha	313.010	232.780
30 kg P_2O_5/ha	310.750	229.390
45 kg P_2O_5/ha	251.990	209.050
F—test	N. S.	N. S.
S. Em. ± (0.05)	46.183	50.534
Levels of potash		
0 kg K_2O/ha	287.020	157.070
15 kg K_2O/ha	307.360	273.463
30 kg K_2O/ha	287.020	204.530
45 kg K_2O/ha	281.370	204.530
F—test	N. S.	N. S.
S. Em. ± (0.05)	46.183	50.534

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