

## GERMINATION OF SESAMUM SEEDS UNDER DIFFERENT SOIL MOISTURE REGIMES

Among the various environmental conditions required for proper germination of seeds, soil moisture content is perhaps the most important. The germination of sesamum seeds is very much influenced by the deficiency or surplus of soil moisture often, resulting in uneven plant population in the field. Knowledge of the interrelationship between soil moisture level and germination of sesamum seeds is very limited and hence a study was carried out in the College of Agriculture, Vetlayani during 1979 to find out the optimum soil moisture level required for maximum germination of sesamum seeds. The soil used was red loam, the variety of sesamum tried being Kayamkulam-1.

The germination test was carried out in petri dishes in which weighed quantity of dry soil was taken. Measured quantity of water was added so as to maintain 0, 10, 20, 30, and 40% soil moisture at the time of sowing the seeds. The test was replicated four times. The petri dishes were kept in germination chamber where room temperature and relative humidity were maintained. Germination count was taken on the fourth day of sowing. The germination percentage observed at different moisture levels is given in Table 1.

Table 1

Germination percentage of sesamum seeds under different soil moisture levels.

Percentage of soil moisture.	Germination percentage
0	0.0
10	0.0
20	95.0
30	97.5
40	32.5

It is seen from the data that there was no germination at 0 and 10 per cent moisture levels. The maximum germination of 97.5 per cent was recorded at 30 per cent soil moisture level, followed by 20% at which the germination percentage was 95.0. When the soil moisture level was increased from 30 to 40%, the germination percentage dropped to 32.5.

The seedlings at 30 per cent soil moisture level was very vigorous as compared to those at 20 percent soil moisture.

The absence of germination observed at 0 and 10% soil moisture levels is due to the high water suction at these levels at which sesamum seeds were not able to absorb moisture from the soil. Doneem and John (1943) reported that the rate of vegetable seed germination decreases with soil water suction.

The results of this test conclusively proved that for obtaining maximum germination of sesamum seeds, a soil moisture range of 20 to 30% at the time of sowing is the optimum.

സംഗ്രഹം

എള്ളു വിത്തു വിതയ്ക്കുമ്പോൾ ഏറ്റവും കൂടുതൽ അങ്കുരണം ലഭിക്കുന്നതിന് മണ്ണിൽ ഇരുപതു മുതൽ മുപ്പതു ശതമാനം ജലാംശം ഉണ്ടായിരിക്കുന്നതാണ് ഉത്തമം.

Reference

Doneem, L. D, and John, H 1943. Germination of vegetable seeds as affected by different soil moisture conditions *Plant Physiol.*, 18, 524-529.

College of Agriculture,  
Vellayani,  
Trivandrum

U. M. KUNJU  
M. ABDULSALAM