

Effect of sulphur on growth, yield and yield attributes in onion (*Allium cepa* L.)

ABSTRACT

This experiment was conducted to study the effect of different doses of sulphur on growth and yield performances of onion. The experiment comprised of five levels of sulphur (0, 20, 40, 60 and 80 kg S ha⁻¹) and was laid out in RCBD design with four replications and other fertilizers were applied according to recommended doses. Individual bulb weight, dry weight of root, dry weight of bulb, dry weight of shoot, dry weight of leaf, total dry matter (TDM), leaf area index (LAI), absolute growth rate (AGR), relative growth rate (RGR), net assimilation rate (NAR), individual bulb weight, bulb yield of onion and sulphur content were increased significantly with the application of sulphur fertilizer. The maximum sulphur content (0.49%) of onion bulb was observed in 40 kg S ha⁻¹ followed by 20 kg S ha⁻¹ (0.45%), 60 (0.45%) and 80 kg S ha⁻¹ (0.44%) at average of 45 and 85 days after transplanting. However, number of splitted bulb, bulb diameter, neck diameter, and neck bulb ratio were not significantly affected by different doses of sulphur application. Application of 40 kg S ha⁻¹ resulted in the highest yield (10.65 t ha⁻¹) among the different doses of sulphur. The present study clearly indicates that sulphur at 40 kg ha⁻¹ may be recommended for better growth and yield of onion under silty loam in texture having pH around 6.5.

Keyword: Dry matter; Growth; Onion; Sulphur; Yield