

## Research Paper

THE ASIAN JOURNAL OF HORTICULTURE

Vol. 6 | Issue 2 | December, 2011 | 358-360



### Article history:

Received : 02.07.2011

Revised : 11.08.2011

Accepted : 29.09.2011

## Influence of integrated nutrient management on growth parameters of glory lily (*Gloriosa superba* L.)

■ M. GAYATHIRI AND A. ANBURANI<sup>1</sup>

### Associated Authors:

<sup>1</sup>Department of Horticulture, Faculty of Agriculture, Annamalai University, ANNAMALAINAGAR (T.N.) INDIA

### Author for correspondence :

M. GAYATHIRI

Department of Horticulture, Faculty of Agriculture, Annamalai University, ANNAMALAINAGAR (T.N.) INDIA

**Abstract :** An experiment was carried out to study the influence of integrated nutrient management on growth parameters of glory lily. The treatments consisted of different organic sources *viz.*, farm yard manure (25 t ha<sup>-1</sup>), vermicompost (5 t ha<sup>-1</sup>) and neem cake (5 t ha<sup>-1</sup>) as basal along with the recommended dose of inorganic fertilizers as 75 and 100 per cent (112.5: 37.5: 56.25 kg NPK ha<sup>-1</sup>, 150:50:75 kg NPK ha<sup>-1</sup>, respectively). The results revealed that the growth parameters *viz.*, plant height (228.30 cm), number of primary (3.98) and secondary branches (7.92), number of leaves (100.10) and leaf area (36.21 cm<sup>2</sup>) were the highest in the treatment combination of FYM @ 25 t ha<sup>-1</sup>, consortium biofertilizer (2 kg ha<sup>-1</sup>) along with the recommended dose of inorganic fertilizers @ 112.5:37.5 : 56.25 kg NPK ha<sup>-1</sup> when compared to other treatments.

**Key words :** *Gloriosa superba*, Organic nutrients, Inorganic fertilizer, Growth parameters

**How to cite this article :** Gayathiri, M. and Anburani, A. (2011). Influence of integrated nutrient management on growth parameters of glory lily (*Gloriosa superba* L.), *Asian J. Hort.*, 6 (2) : 358-360.

Glory lily (*Gloriosa superba* L.) is an important medicinal crop. It is native to tropical Asia and Africa and found growing throughout tropical India up to an altitude of 2500 m. Tubers are used as tonic, antihelmintic and also against snake bites and scorpion stings. The medicinal properties of the glory lily are due to the presence of alkaloids, chiefly 'colchicine' and 'gloriosine'. Colchicine present in seed and tubers is also capable of inducing polyploidy in plants and is used in drugs for treating gout and rheumatism (Satyavati *et al.*, 1976) and for cancer control (Amoroso, 1935).

It has become imperative to increase the productivity by maintaining the soil health through the balanced use of inorganic fertilizers and organics. The integration of organic and inorganic fertilizers will lead to the build up of soil fertility, increase in crop productivity with concomitant nutrient balance, besides minimizing the population hazards as well as the fertilizer cost. Considering the above points in view, the present investigation was carried out, to study the influence of integrated nutrient management on growth parameters of glory lily.

## RESEARCH METHODS

A field experiment was conducted in a farmer's field at Kachiperumal village in Jayamkondam taluk of Perambalur district during July 2008 to December 2008. The experiment was laid out in a Randomized Block Design in twelve treatments with three replications. The experiment was conducted by using various organic manures *viz.*, farm yard manure (25 t ha<sup>-1</sup>), vermicompost (5 t ha<sup>-1</sup>) and neem cake (5 t ha<sup>-1</sup>) applied in the soil as basal application along with the recommended dose of inorganic fertilizers @ 112.5: 37.5: 56.25 kg NPK ha<sup>-1</sup> as 75 per cent, 100 per cent @ 150:50:75 kg NPK ha<sup>-1</sup>. One third nitrogen, along with entire dose of phosphorus and potassium were applied as basal at the time of planting. Remaining two third of nitrogen were top dressed at two months after planting. The fertilizers were applied in the form of urea, super phosphate and muriate of potash. Irrigation and weeding were done as per the requirement of the crop. The crop was harvested 6 months after planting. Plants in each treatment per replication were tagged for recording the observations on growth parameters *viz.*, plant height, number of primary branches,