

## Effects of Nitrogen Levels on Growth and Yield of Spider Plant in Kenya

<sup>1</sup>Kenneth Mutoro\*, <sup>1</sup>Mwashasha Rashid Mwajita, <sup>2</sup>Charles Ndenga & <sup>3</sup>Irendale Mabele

<sup>2</sup> Department of Horticulture and Food Security, Jomo Kenyatta University of Agriculture and Technology, P.O. Box 62000-00200, Nairobi, Kenya

<sup>2</sup> Department of Agricultural Economics, Kenyatta University, P.O. Box 43844-0100, Nairobi, Kenya

<sup>3</sup> Department of Extra Mural Studies, University of Nairobi, P.O. Box 30197-00100, Nairobi, Kenya

### Abstract

The supply of spider plant (*Cleome gynandra*) as one of the African leafy vegetables in Kenya is low and this is attributed to poor fertilizer use and limited access by farmers to improved varieties. This study was carried out to evaluate the effect of different N forms on growth and yield of spider plant. Greenhouse and field experiments were conducted in 2011 and 2012 in Ruiru and Juja. Objectives were: to determine the plant growth and yield of spider plant cultivars under different nitrogen levels. 8 lines that were developed at the World Vegetable Centre, Arusha, were evaluated alongside the commercial variety (control). All experiments were undertaken for 2 seasons, where both variety and nitrogen factors were investigated under split plot design. Plants were harvested at 7-10-day intervals. Data was analyzed in SAS 9.1.3 software. Accessions were ranked from 1-9 in terms of performance. Results indicated that application of manure resulted in increased yield and other growth parameters compared to other nitrogen fertilizers ( $P \leq 0.05$ ). Availability of improved and high yielding cultivars coupled with use of manure will increase supply of spider plant and, thus, enhance food security, a major pillar of the Big 4 Agenda of the Kenya government.

**Keywords:** African Leafy Vegetables, *Cleome Gynandra*, Manure, Cultivars