

**Effect of plant density on production, quality and profitability of cut Gerbera (*Gerbera jamesonii* Adlam)**

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**Abstract**

A study was carried out to identify the most optimum plant density (spacing) for high quality cut flower production of Gerbera which is a high valued and demandable cut flower crop mainly growing in up country region of Sri Lanka. Four different plant densities ranging from 6.25 plants / m<sup>2</sup> to 12.25 plants / m<sup>2</sup> along with the farmer practice were tested.

Flower production per unit area (no of flowers / m<sup>2</sup>) was significantly influenced by the plant density. The plant density of 8.3 plants/ m<sup>2</sup> produced highest flower production of 254 flowers / m<sup>2</sup> / year while lowest flower production was recorded in lowest density (207 flowers / m<sup>2</sup> / year in 6.25 plant / m<sup>2</sup>). Increasing plant density beyond 8.3 plant / m<sup>2</sup> resulted in a decrease of flower production (231 flowers / m<sup>2</sup> / year in 11.1 plant / m<sup>2</sup> and 227 flowers / m<sup>2</sup> / year in 12.25 plants / m<sup>2</sup>). However, lower density performed well and produced significantly higher number of flower compared to high density. Plant spacing had no effect on flower diameter, stem length, stem diameter, flower fresh weight, vase life or overall quality. Benefit cost analysis showed that the highest benefit cost ratio (2.27) was recorded for plant density of 8.3 plants / m<sup>2</sup>. Based on these findings the density 8.3 plant / m<sup>2</sup> could be practiced to get maximum production and profitability without loss of flower quality of Gerbera

**Keywords:** Flower yield, Flower quality, Gerbera, Plant density, Benefit cost