

**GROWTH OF *Senna occidentalis* (L.) LINK IN SANDY SOIL AS
AFFECTED BY FERTILIZATION AND SOIL AMENDMENTS**

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ABSTRACT

This study was conducted at the Experimental Nursery of the Ornamental Horticulture Department, Faculty of Agriculture, Cairo University, during the two successive seasons of 1999/2000 and 2000/2001, with the aim of investigating the effect of NPK fertilizer ratios of 1:1:1 (6% N- 6% P₂O₅ - 6% K₂O), 2:1:1 (12% N- 6% P₂O₅ - 6% K₂O) or 3:1:1 (18% N - 6% P₂O₅ - 6% K₂O) and soil amendments (taffla, clay, composted sewage sludge, cattle manure or Agrosil) on the growth and chemical composition of *Senna occidentalis* plants grown in a sandy soil. The fertilizers with the different ratios were applied at the rate of 5 g/plant/month. Taffla, clay, composted sewage sludge and cattle manure were incorporated into the sandy soil at the ratio of 4:1 (sand : soil amendment, v/v), while Agrosil was used at the rate of 500 g/m³ of sandy soil.

All fertilization treatments increased vegetative growth (plant height, stem diameter, number of branches/plant, number of leaves/plant, fresh and dry weights of leaves, stems and roots/plant) significantly, compared to the control. Moreover, raising the N level in the NPK fertilizer resulted in steady significant increases in vegetative growth parameters, as the 3:1:1 fertilizer gave the best results. In general, the addition of amendments to the sandy soil resulted in significantly higher values for the different growth parameters, compared to plants grown in sand only. Clay was the most effective soil