

**EFFECT OF SODIUM AZIDE ON GROWTH AND FLOWERING OF
 BOUGAINVILLEA GLABRA CHOICY VAR SANDERIANA
 BY**

Hanan, M.A., Youssef and Saadawy, M.F.

Ornamental Plant Research Department, Horticulture Research Institute, A.R.C., Egypt.

ABSTRACT

A series of pot experiment was conducted at the Nursery of Hort. Res. Inst., ARC., Giza, Egypt during 2004/2005 and 2005/2006 seasons to find out the effect of sodium azide added with either a soil drench or a foliar spray, twice with one month interval, with the concentrations at 0.00, 0.02, 0.04 and 0.08% on growth, flowering and chemical composition of *Bougainvillea glabra choicy* var. *sanderiana* transplants grown in 16-cm-diameter plastic pots filled with about 1.5 Kg of an equal mixture of loam, sand and peatmoss, by volume.

The obtained results indicated that plant height (cm) and No. leaves/plant were progressively decreased with increasing sodium azide concentration, whereas stem diameter (cm), No. branches/plant and leaf area (cm²) were gradually increased with significant differences in most cases of the two seasons. Sodium azide at 0.02% level significantly raised No. peduncles/plant, while both 0.02 and 0.04% levels greatly evaluated No. Florets /peduncle. On the contrary peduncle length (cm) was cumulatively declined as sodium azide concentration increased.

A significant increment in the leaves content of chlorophyll a,b and carotenoids was observed due to the low (0.02%) and medium (0.04%) rates, but they were markedly decreased in response to the high rate (0.08 %). The opposite was the right regarding total indoles and total phenols, as they were argumentatively depressed with increasing sodium azide level.

Concerning application method, data showed that soil drench technique caused a significant improve in plant height, No. branches /plant and the content of pigments in the leaves, while foliar spray method significantly improved No. leaves/plant, peduncle length and the content of both total indoles and total phenols. Application method, however had no significant effect on stem diameter, leaf area, No. peduncles/plant and No. florets/peduncle parameters.

From the previous results, it could be concluded that drenching or spraying *B. glabra* var. *sanderiana* transplants with 0.02 or 0.04% sodium azide aqueous solution, twice with one month interval gave compact and floriferous plants suitable for marketing as flowering pot plants. Moreover, the occurrence of some reverse responses may suggest the incidence of some changes in the response pattern (such as increasing of branching, leaf area and number of both peduncles and florets) which may lead to some variations in the gene expression.

Key words: *Bougainvillea*, sodium azide, mutations, soil drench, foliar spray, vegetative growth, flowering, chemical composition.

INTRODUCTION

Bougainvillea of the nyctaginaceae family is a south american genus comprising 18 species of tropical and subtropical woody

vines or scandent shrubs. Most varieties flower continuously and used to drape walls, pillars buildings and bare-stemmed trees, or