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An Investigation into of High Level Co2 Concentration on Anatomical and Morphological Traits in Floss Flower (*Ageratum houstonianum*)

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Abstract

The Floss flower is one of the most important ornamental plants that is cultured as a bedding plant. In this study, anatomical and morphological traits, and earliness of Floss flower transplants were examined. Treatments were 350 µlit lit^{-1} (as control), 700, 1050 and 1400 µlit lit^{-1} Co_2, with 3 replications, and the experiment was conducted based on completely randomized design and 14 traits were studied. The results indicated that almost all traits were affected by Co_2 concentrations. Particularly at high levels, stem diameter was increased to 50% and plant height was increased 2-fold compared to control. The rate of chlorophyll increased (41.7%) compared to control with 1050 µlit lit^{-1} Co_2. Also, stomatal density, width and size of stoma, stomatal index, epidermal cells density, and width of cell guard of plants increased at high level of Co_2. The flowering of plants accelerated 15 days compared to control at 700 µlit $lit^{-1}Co_2$.

Keywords: Floss flower, Co_2, Anatomical traits, Morphological traits.