



EFFECT OF DIFFERENT TYPES FERTILIZATION ON ANATOMICAL FEATURES OF THREE CULTIVARS OF *HIBISCUS* *ROSA-SINENSIS*

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ABSTRACT

The leaf anatomy of *Hibiscus rosa-sinensis* cultivars (of red flowers “San Diego”, of yellow flowers “Butterfly” and of orange flowers “Peach Schnapps”) has been studied in case of treatment with three fertilizers; Kristalon (1gm/pot and 4gm/pot) Diatoms earth (alga fertilizer) (50cm³/pot and 200cm³/pot) and Lithovit (nano-fertilizer) (0.5 gm/l).

Treatment of Orange Variety by Kristalon (1gm/pot) show more regular cortical cells and little deformation of some phloem cells by higher Kristalon (4gm/pot). Yellow Variety show deformation of mesophyll cells in lower treatments, while, deformation of few mesophyll cells in higher treatments.

Lower treatment of Diatoms earth (50cm³/pot) show more regular cortical cells with little deformation in case of Orange variety, while severe deformation of cortical cells in higher treatments (200cm³/pot). For Red Variety, deformation of mesophyll tissues with lower Diatoms and deformation of some phloem cells in higher treatment. For Yellow Variety, mild deformation presence of some lower Cork cells in lower treatments while deformation of some mesophyll cells in higher treatments.

In case of Orange Variety, Lower treatments of Lithovit “nano” (0.5 gm/l) show deformation in some upper and lower cortical cells. Same treatment in case of red variety show deformation of some epidermal and mesophyll cells, presence of hairs, while deformation of some epidermal, phloem and mesophyll cells in higher treatment with Lithovit “nano” (1.5 gm/l). For Yellow Variety, deformation of some mesophyll cells, presence of branched unicellular trichomes in lower treatment by Lithovit, while, presence of trichomes in case of higher treatments.

Key words: *Hibiscus rosa-sinensis*, Kristalon, Diatoms earth, Lithovit (nano-fertilizer), Leaf anatomy, San Diego, Butterfly and Peach Schnapps.