

Effects of water deficit stress on growth, leaf relative water content and stomata density of *Capsicum annum* L.cv. CA8

Kariyawasam P. S.*¹, Peris Y.M.M.¹ and Samaraweera, D.N.²

¹*Department of Botany, University of Ruhuna, Matara, Sri Lanka*

²*National Cinnamon Research Station, Palolpitiya, Sri Lanka*

Water deficit stress is one of the main factors that can affect growth in species of *Capsicum annum* L. worldwide. The newly developed cultivar of *Capsicum annum* L.cv. CA8 by the Department of Agriculture, Sri Lanka would also be no exception. The effects of water deficit stress on this new cultivar were studied in a pot experiment by withholding water supply in gaps of days making four irrigation treatments. Scheduled watering was done in vegetative and reproductive stages separately in two experimental setups until the end of the life span of the plants. The results obtained showed that the water stress developed in plants increased with the increase of gap in irrigation, leading to reduction of growth, relative water content and stomata density of *Capsicum annum* L.cv. CA8. The irrigation treatment that eliminated temporary wilting showed fewer effects on the measured parameters when compared with plants under watering cycles with more than five days gaps. The decrease in growth parameters of *Capsicum annum* L.cv. CA 8 could be attributed to reduction in photosynthetic capacity in the plants that were affected by water deficit stress developed in them. Reduction of leaf relative water content and stomata density may be considered as direct effects of water deficit stress developed in these plants.

Keywords: *Capsicum annum* L. cv. CA8, Irrigation treatment, Water deficit stress

*Corresponding Author: piyals@bot.ruh.ac.lk