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EFFECT OF COPPER ON GROWTH AND CHLOROPHYLL CONTENT IN TEA PLANTS (*CAMELLIA SINENSIS* (L.) O. KUNTZE)

SARMISHTA DEY[1], P. B. MAZUMDER[2] & S. B. PAUL[3]

[1,2]Plant Biotechnology Laboratory, Department of Biotechnology, Assam University, Silchar, Assam, India

[3]Department of Chemistry, Assam University, Silchar, Assam, India

ABSTRACT

Tea is the oldest, most popular, non alcoholic caffeine containing beverage, in the world. The presence of heavy metal even in trace amount causes adverse effect both in quality and quantitative production. The accumulation of heavy metal causes health issues also. In the present work we have studied the effect of chlorophyll content which is an important photosynthetic parameter with the high concentration of copper stress with respect to the days of the treatment in two different cultivars *viz.* TV-23, TV-17 in hydroponically system. Both shoot and root weight decreased progressively with increasing Cu concentration for *Camellia sinensis*. Negative linear relationships were observed between total Chlorophyll contents and Cu concentration. With the increase in the concentration of Cu even at trace level causes deleterious effect in the metabolism of plant especially photosynthetic activity which caused remarkable breakdown in the photosynthetic parameters. A significant decrease of chlorophyll started for both the cultivars was observed at concentrations above 300µM. From this study, we found the photosynthetic activity of TV-17 is more sensitive to Cu stress than that of TV-23.

KEYWORDS: Tea Plants, Copper Stress, Physiological Characters, Chlorophyll Pigments