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INFLUENCE OF HUMIC ACID AND SALICYLIC ACID ONYIELD, QUALITY ANDPROXIDASE ACTIVITY OF CATHARANTHUS ROSEUS L. (G.DON) PACIFICA

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Periwinkle plant [*Catharanthus roseus* L. (G.Don)] from Apocynaceae family is one of the valuable medicinal-ornamental plants that is commonly used for its anticancer alkaloids. One possible strategy to increase the secondary metabolites in this valuable plant is to apply elicitorslike salicylic acid (SA) and humic acid (HA). To evaluate the effects of salicylic acid and humic acid on growth index in this plant, an experiment was conducted with three replicates using salicylic acid levels (0, 0.5, 1, 2 $mg.L^{-1}$) and humic acid (0, 50, 100 and 150 $mg.L^{-1}$). The peroxidase activity, number of flowers, stem diameter, number of branches, root length, chlorophyll and carotenoid content were studied. The results showed that stem diameter, number of flowers, root length, number of branches, chlorophyll and carotenoid content were significantly affected using elicitors. Salicylic acid at0.5 m.mol led to the maximum number of branches and the highest root length. The maximum chlorophyll content was recorded in 50 $mg.L^{-1}$ humic acid. Peroxidase activity (POD) was also improved towards a better quality. Results confirmed that application of salicylic acid and humic acid can improve the morphological characteristics and therefore the final yield of *catharanthus roseus* L.

Keywords: Antioxidant enzymes, Chlorophyll, Humic acid, Yeild