plant height, number of nodes, number of branches and chlorophyll (a) in comparison with control. Also, spraying in concentrations of 0.02, 0.03 and 0.05 percent significantly increased malondialdehyde and dihydroxy guanosine biomarkers compared to the control. The use of nanoparticles of titanium in the lowest concentration (0.01%) was non-significant increase in grain yield, biological yield, grain weight, length and weight of pods and seed protein compared to control. also use of nanoparticles of titanium in concentrations of 0.02, 0.03 and 0.05 percent non-significant increase leaf proline and antioxidant enzymes (glutathione peroxidase, superoxide dismutase, catalase and peroxidase) respectively. Among the morphological and physiological characteristics examined, the highest correlation with grain yield related to the number of nodes and number of branches at 1 percent and high correlation was observed between biochemical compounds and chlorophyll (a) was owned by peroxidase and proline. In general, the use of nanoparticle of titanium at low concentration not cause toxicity and and had not inhibitory effects on growth, but also stimulate growth and improve photosynthesis by increasing the synthesis of chlorophyll in the leaves of plant. Thus, an application of nanoparticles (nanao TiO_2) as nano-fertilizers can be as good a way to improve the performance and yield components in pinto beans.

Keywords: Antioxidant enzymes, Proline, Seed protein, Chlorophyll a

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