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Effect of Iron and Zinc Nano Chelates on the Morphological Properties of Balangu (*Lallemantia royleana*).

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Lallemantia royleana seed is a good source of polysaccharides, fiber, oil and protein. Mucilage creates a protective layer on the digestive gastrointestinal mucosa, so that stimulants such as acids and salt can not contact inflamed or wounded parts, and also prevent stomach acid reflux [1]. In order to investigate the effect of Iron nano- chelate fertilizers and Zinc nano-chelate fertilizers on *Lallemantia royleana*, an experiment was conducted in a completely randomized block design with three replications at Shahed University. The treatment of iron nano- chelate with concentrations of 0 (control), 2000, 4000 and 6000 parts per million and also treatments of zinc nano- chelate with concentrations of 0 (control), 2000, 4000, and 6000 parts per million as soluble. The studied traits Plant height, fresh and dry weight of plant, number of substem plant, 1000 seed weight, germination percentage, seed yield and musilage content. The highest plant height was obtained at a concentration of 6000 parts per million iron and 0 (control). The maximum length of the main panicle length was observed in the amount of interaction between 6000 pieces per million iron-2000 pieces per million particles and the minimum length of main panicle length in 0 (control). No significant correlation was observed between the traits related to mucilage and none of the morphological traits. Dry weight of mucilage and musilage percentage had a significant and negative correlation with grain weight. There was a significant difference between the concentrations of iron in terms of plant height at the 5% probability level, but there was no significant difference during the main inflorescence. In multiple regression analysis, dry weight variables were considered as dependent variables and the rest were compared as independent variables. Only independent variables of plant weight and plant height were included in the regression model. Nineteen variables were reduced to 6 factors in the Varimax rotational factor analysis, which allowed the six factors to justify 72.7% of the total variation in the data.

Keywords: Lallemantia royleana, Inflorescence, Mucilage, 100 grain weight

References

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