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**EFFECT OF OSMOPRIMING WITH KNO₃ ON SEED GERMINATION
OF *LALLEMANTIA ROYLEANA***

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Germination of balangu (*Lallemantia royleana*) is a critical factor influencing seedling establishment when seeded directly in fields. In this research, priming with osmotic solution was used to improve the germination percentage of balangu. The aim of this study was to develop techniques that improve the germination of *Lallemantia royleana*. Seeds were subjected to priming in aerated beakers with different solutions of KNO₃ including 0 (distilled water), 0.1, 0.3, 0.5 and 1 % at 25°C for 24, h. Germination test was performed according to methods of the International Seed Testing Association. Seeds were considered germinated when radicles emerged at least 2 mm. Seedling quality was evaluated after 14 days in respect to the number of normal seedlings. Parameters related to germination, such as maximum germination (G_{max}) and mean germination time (MGT), Germination rate; root length and shoot length were measured. Data were analyzed using MSTATC program. Probability of significant differences among treatments and interactions by Duncan test (p<0.05) were used to compare means within and among treatments. Results showed that osmoopriming increased MGT. Shoot length increased with increasing osmotic potential to 0.3% followed by a decrease in higher water potentials. Germination percentage and root length did not influenced by priming with 0.3% KNO₃ solution. Priming with KNO₃ increased shoot length by 140% compared to control (hydropriming). It is assumed that increment in MGT induced by increment of seed osmotic potential. The results were agree with the finding of Abdollahi and Jafari (2012). It is concluded that priming with 0.3% KNO₃ has the ability to improve seedling growth by shoot length increment.

References

- [1]. Abdollahi, F; Jafari, L. *International Journal of Agriculture: Research and Review*. 2012, 2 (5), 573-579