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Effect of Seed Priming Using Botanical Extracts on Germination of Okra (*Abelmoschus esculentus* Var. Nancy)

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Abstracts

The germination in okra is poor due to its tough seed coats, undeveloped embryos, and adverse conditions which seems problematic in its cultivation. Seed priming is one of the best way to induce the seed germination and crop vigor in okra. Therefore, an experiment was conducted to evaluate the effects of seed priming on okra seeds using botanical extracts at College of Natural Resource Management, Bardibas, Mahottari, Nepal. Nancy (F₁) variety was taken to conduct the research using 6 different treatments i.e.(control, distilled water, 4% cow urine solution, 4% Moringa leaf extract solution, 4% Tulsi leaf extract solution and 4% Siris leaf extract solution) and 3 replications in Complete Randomized Design (CRD). The seeds were soaked for 15 hours in priming solution and dried at room temperature for 2 hours before sowing. The germination diversity parameter was recorded and analyzed through Genstat ver.2015. The results revealed that 4% Tulsi leaf extract solution shown highest germination % (83.33%), speed of germination (27.73 seeds/day), seedling length (23.63cm), dry weight (0.2990), seed vigor index 1 (1968cm) and seed vigor index 2 (24.84) followed by 4% Siris leaf extract solution with 75.56% germination, 23.48 seeds/day speed of germination, 22.51 cm length of seedling, dry weight of 0.2147, seed vigor index 1 (1705 cm) and seed vigor index 2 (16.24) as compared to control with (45.55 %) seed germination, (12.76 cm) seedling length, (0.088) dry seedling weight, SVI1 with 579 cm and SVI2 with (4.02). Seed priming with Tulsi leaf extract along with moringa and siris found to effective in improving seed germination and vigor in okra. So, this experiment should be conducted in farmer's field and larger plot for validation.

Keywords: Botanical, extracts, germination, moringa, okra, seed-priming, siris, tulsi, urine.

