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Different Treatments on Germination and Processing Methods and their Effect on Nutritional and Anti-Nutritional Compositions of Lentils (*Lens Culinaris)*

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Abstract: *The present investigation was aimed at finding suitable treatments to improve germination of lentil seeds, one of the most important crops, to increase the yield. Seeds were treated with different priming solutions viz. osmo, halo, nutrient and hydropriming at different temperatures (5,15, 25 and 35°C). The seeds were treated with UV-radiation and microwave-radiation to see their effects on germination of seeds. The effect of microwave cooking and other traditional cooking methods such as boiling, microwave and autoclaving on the nutritional and anti-nutritional factors of lentils were studied. It was found that hydro-priming at 15°C was found optimum (100%), root and shoot length was found to be maximum, 7.0 cm and 13.5 cm, respectively. On the basis of results obtained from microwave treatment on lentil seeds, it can be concluded that stimulation is stronger for the treatment at shorter exposure time of 30 s than for 90 s and 120 s. The positive effect of stimulation is better expressed for later stages of development on the 15th day. Exposure of hydrated seeds to UV-radiations for 20 and 30 min significantly reduced germination, though the speed of germination was increased. It not only suppressed root and shoot development but also caused curling and twisting of seedlings. From the results obtained from processing methods, it was clear that the microwave cooking caused slight loss in minerals, while boiling and autoclaving caused significant loss. All processing methods caused reduction of tannins and phytic acids. It is quite clear that cooking lentils by microwave not only saves time but also retains nutritive value the most.*

Keywords: Lentils, osmo-priming, nutrient-priming, halo-priming and hydro-priming.

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