

## EFFECT OF AROMATIC HERBS ON SPROUT INHIBITION AND TUBER QUALITY OF STORED POTATO (*Solanum tuberosum* L.)

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Sprout inhibition is a critical concern in maintaining the postharvest tuber quality of potatoes during long-term storage. Existing sprout inhibition methods either expensive or cause adverse effects on human health and the environment. Therefore, this study was undertaken to identify the effect of four different aromatic herbs namely, rosemary (*Rosmarinus officinalis*), holy basil (*Ocimum tenuiflorum*), lemongrass (*Cymbopogon citratus*), and vetiver grass (*Vetiveria zizanioides*) on sprout inhibition and tuber quality during the storage. Four replicates of two months old potatoes (Granola variety) were stored ( $19.25 \pm 0.44^\circ\text{C}$  and RH  $84.23 \pm 1.83\%$ ) with equal quantity of fresh herbs in each replicate. Further, control was maintained without adding any herbs. Sprout length and weight loss were measured in seven days of intervals to recognize the most effective herb which inhibits the sprouting significantly. Once selected the best, the effect of the dosage (2:1, 1:1, 1:2 w/w ratio of potato: herb) and the renewing frequency (7, 14, 21 days) of the herb were further evaluated to assess the tuber quality characteristics based on the sprout inhibition (sprout length), dry matter percentage, specific gravity, and starch content. Results revealed that the lowest sprout length ( $0.75 \pm 0.25$  mm) and weight loss ( $1.63 \pm 0.39\%$ ) were observed in the treatment with lemongrass, while the untreated tubers resulted in the highest as  $13.25 \pm 1.38$  mm and  $5.15 \pm 0.55\%$  respectively. Among all, lemongrass was the most effective herb on sprout inhibition with an extended storage period of six weeks. Dosage of lemongrass did not significantly alter ( $p > 0.05$ ) the tuber quality characteristics while the renewing frequency significantly affected ( $p < 0.05$ ), on sprout inhibition. In conclusion, lemongrass inhibits the sprouting of potatoes more effectively. The herbs should be renewed once a week during the storage for better outcome.

**Keywords:** Aromatic herbs, Lemongrass, Potato, Sprout inhibition, Tuber quality