

Full Length Research Paper

Effects of light intensity on quality of potato seed tubers

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Potato (*Solanum tuberosum* L.) genotypes (Tigoni, Asante and Dutch Robyn) were evaluated for quality under three light intensities, 612.2 kW (diffused), 1376 kW (direct) and 8 kW (dark) for 12 weeks. Tuber stored in dark conditions had a lower weight loss than tubers stored in direct light conditions. Dutch Robyn lost the lowest weight (4.49%) while Asante lost the highest (13.90%) mean weight. Tigoni in the dark had the highest number (9.25) of sprouts. Tubers in the dark developed long (46.25mm) etiolated sprouts as opposed to the short (10.50mm) firm sprouts observed in tubers subjected to the diffused light. High sprout vigor score (2.42) was observed in Asante while Dutch Robyn had the lowest (1.00) score. Nevertheless, all the tubers in the three light intensities had 100% sprouted tubers after the 12 weeks of storage. Potato tuber moth incidence was higher in percentage in the direct and diffused light than in the dark storage. No incidence of rotting was reported for the 12 weeks of storage. It is therefore suggested that farmers should adopt storage of potato seed tubers in diffused light (612.2 – 1000 kW) store to allow formation of short firm sprouts and reduce weight loss.

Key words: Light intensities, diffused light, sprouting, potato seed.