

Effect of different cutting shapes on keeping quality of *Ipomoea mauritiana* (Kiribadu) yams

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Abstract

Ipomoea mauritiana is a very important medicinal plant and tuberous root (yam) is the most important part used as a medicine. Because of high nutritive value, keeping quality of yams are very low and easily subjected to fungal attacks and also yams cutting shapes highly affected on the quality due to browning and wrinkling. Therefore it is important to select a proper cutting shape to enhance the keeping quality of *Ipomoea mauritiana* (Kiribadu) yams.

For this purpose, an experiment was set up at the Department of Crop Science, Faculty of Agriculture, University of Ruhuna to select proper cutting shape for *Ipomoea mauritiana* (Kiribadu) yams to enhance the keeping quality. Two centimeter diameter circular (1mm thickness) pieces, 1 cm x 2 cm rectangular pieces (1mm thickness), 0.5 cm x 0.5 cm x 2cm sticks, chopped materials were assigned as different treatments and four replicates were used. To obtain constant dry weight, different cutting shapes were subjected to sun drying. Changes in weight loss, colour, shape (Wrinkled or not) and fungus attacks were used as different quality parameters. Quality parameters were taken three weeks after harvesting. These were assessed using Kruskal Wallis test with twelve sample size. Data on changes in weight loss were analyzed using ANOVA with Statistical Analysis system.

Results revealed that, the lowest weight loss and other quality parameters (colour, shape and fungus free) were higher in 1 cm x 2 cm rectangular pieces (1mm thickness) than other treatments and chopped materials gave a highly browning appearance and 2 cm diameter circular (1mm thickness) pieces showed wrinkled appearance. Wrinkled appearance and browning reduced the consumer preference and marketability of the product.

Therefore 1 cm x 2 cm rectangular pieces (1mm thickness) were most promising yam cutting shape to enhance the keeping quality and marketability of *Ipomoea mauritiana* (Kiribadu) yams. These rectangular yam pieces could be preserved up to eight months without adverse affect on keeping quality and marketability of the product.

Keywords: Cutting Shape, Keeping Quality, Medicinal Plant, Tuberous Root