DEVELOPMENT OF AN ORGANIC METHOD FOR INDUCTION OF RIPENING BANANA VARIETY " EMBUL "

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Consumption of artificially ripened fruits cause health hazards due to contamination with harmful chemical residues. Therefore this study was directed to develop an organic method for induction of ripening of banana (*Musa* spp.), variety *Embul*. Cashew (*Anacardium occidentale*) and *Ehala* (*Cassia fistiula*) leaves were dried, ground and powdered to use as treatments. Banana harvested at mature green stage were de-handed, clustered and allocated into different treatments and a control. All experiments were conducted in a Completely Randomized Design. In the preliminary experiment banana were treated with cashew, *ehala* and cashew: *ehala* (1:1) at 10% of banana weight. Next, banana was treated with 5%, 10% and 15% (in banana weight) powder of 1:1, cashew and cashew: *ehala* in experiment 1 and 2 respectively. With the best selections from experiment 1 and 2, 3rd experiment was conducted, and banana were treated with 2 weeks stored 10% and 15% (banana weight) cashew and cashew: *ehala* (1:1) respectively. In all experiments, physicochemical parameters; peel colour, pulp firmness, pH, titratable acidity, brix value, brix to acid ratio and weight loss were recorded at different time intervals until table ripe stage to determine ripen initiation. Sensory evaluation was conducted at table ripe stage of banana, using 10 semi-trained in-house panel. Parametric data were analyzed using Analysis of Variance procedure in SAS while sensory data were analyzed using Friedman test in Minitab. In preliminary experiment, colour (L* and b*), weight loss, brix to acid ratio were significantly affected ($p<0.05$) by treatment and time interaction. The highest overall acceptability in the sensory evaluation was reported in banana treated with cashew. In other experiments, all the physicochemical parameters were significantly affected ($p<0.05$) by treatment and time interaction. The highest overall acceptability was reported in banana treated with 15%, cashew: *ehala* in experiment 2 whereas in 1st and 3rd experiments, the highest overall acceptability was recorded in banana treated with 10%, cashew. Hence, it can be concluded that 10% cashew leaf powder is the best for ripening banana without causing any undesirable effect on physicochemical and sensory properties of *Embul* banana.

Keywords: Cashew leaf powder, *Ehala* leaf powder, *Embul* banana, Ripening