Microbial Deterioration of Stored Banana Varieties (Embul Kesel: Sour Banana and Kolikuttu: Silk Banana) and Determination of Their Best Storage Conditions

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The present study was focused to determine the best storage conditions and to assess microbial and nutritional variation of stored sour banana and silk banana during storage. Fresh and green samples of banana varieties were picked from a farm in the Badulla area. After surface sterilization, bananas were stored in four storage conditions; refrigerator (4°C), wet saw dust, dry sawdust, and room temperature which were served as treatments of the study. The content of protein, crude fat, sugar, moisture, and microbial counts was assessed in three-day until the bananas were over-ripened. Microorganisms were isolated and identification was done. *Fusarium* spp. and *Aspergillus* spp. were the dominating fungal species while *Alcaligenes* spp. and *Xanthomonas* spp. were the tentatively identified dominant bacteria in sour banana and silk banana respectively. But the best storage condition for both varieties was refrigeration (sour banana 13 days, silk banana 20 days). When considering the nutrient profile sour banana contained high protein percentage and low-fat percentage while silk banana contained low protein percentage and high-fat percentage throughout the ripening process. When ripening protein content has increased while fat content has decreased in both varieties. However, both moisture and sugar content increased and were almost similar in both varieties. Therefore, high protein and low-fat content could have led to faster ripening and microbial deterioration of sour banana. Protein and fat content play a major role in shelflife of studied banana varieties and the best storage condition for the selected varieties was refrigeration.

Keywords: Sour Banana, Silk banana, Storage condition