

Exploring the Physicochemical and Quality Attributes of Potato Cultivars during Subsequent Storage

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Abstract : Potato (*Solanum tuberosum*) popularly known as 'the king of vegetables', has emerged as fourth most important food crop after rice, wheat and maize. Potato contains carbohydrates, minerals, vitamins and antioxidants. The antioxidants of potatoes especially vitamin C helps in reducing cancer, cardiovascular diseases and high blood pressure by binding free radicals. Physical characteristics and some major chemical properties of potato tubers at fresh and stored stages were investigated. Two varieties of potatoes, Sante (V1) having white colour and Lal moti (V2) with red colour were stored for 3 months and analysis were performed after each month interval. Physical and chemical attributes including weight loss, sprouting, specific gravity, pH, total sugars (reducing and non-reducing sugars) and vitamin C were analyzed before and after storage. Value of weight loss at zero day was null but it increased to 6.45% after 90 days on average in both cultivars and sprouting increased gradually at the end of 90 days. Moreover total sugars were 3.10% at zero day but increased to 9.30% after 90 days. Ascorbic acid was decreased during storage from 17.49(mg/100g) to 3.79. Both varieties of potato were stored at 60C and 120C temperatures with 85% relative humidity in order to prolong their acceptability in the market. The storage conditions influence the potatoes quality and consequently their acceptability to consumer. The data was analyzed statistically and clarifies that total sugars, weight loss, sprouting and specific gravity increase during the storage period while ascorbic acid (Vit-C) and pH decreased. Among both varieties that were stored at 60C and 120C, Sante (V1) was better than Lal moti (V2) due to less physicochemical and quality changes at 60C as compared to store at 120C.

Keywords : physicochemical, potato, quality attributes, storage

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