

Effect of heating of the gel at different temperatures on quality components of aloe (*Aloe barbadensis* Miller.)

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SUMMARY

The experiment consisted of three accessions of aloe viz., yellow flowering accession-1, yellow flowering accession-2 and orange flowering accession-3 and three temperatures viz., 50° C, 75° C and 100° C temperatures. The quality components like total soluble solids, moisture, reducing sugars and total sugars of aloe gel was studied in three accessions heated at different temperatures. At all storage intervals (day 1, 10th day, 20th day and 30th day) highest gel TSS was recorded with yellow flowering accession-1 heated at 75° C, but the highest gel moisture, reducing sugars and total sugars was recorded with yellow flowering accession-1 heated at 50° C. Irrespective of the temperatures highest TSS, moisture, reducing sugars and total sugars was recorded with yellow flowering accession-1 while the lowest was recorded with orange flowering accession-3.

Key Words : Yellow flowering accession-1, Yellow flowering accession-2, Orange flowering accession-3, Quality components, Aloe gel

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The herb aloe is as old as human civilization. It belongs to the family Liliaceae. The genus is found in Tropical and Southern Africa, Malagasey and Arabia. It was introduced into other parts of the world for ornamental purposes (Reynolds, 1985). There are more than 400 identified species of aloe plants, of which a few have medicinal or economic value (Kawai *et al.*, 1993). For centuries, this plant has been used for its medicinal and therapeutic properties. It has a history of use in folk medicine for treating skin and other disorders. The leaves are to be harvested at the right age and cut exactly at right place on the plant to ensure the best gel (Chauhan *et al.*, 2007). Heating of gel is an effective method of pasteurization and add better flavour (He *et al.*, 2005). Gel heating may change the composition which also has effect on storage. aloe gel can be stored for more number of days (up to 30 days) at 5°C without any deterioration in

quality (Hemalatha *et al.*, 2008). Keeping in view the composition, importance and usage of aloe gel, the present investigation is carried out.

MATERIALS AND METHODS

The experiment was conducted during 2010 at Herbal garden, College of Horticulture, Rajendranagar, Hyderabad to study the effect of temperatures on quality components like total soluble solids (TSS), moisture, reducing sugars and total sugars in different accessions of aloe during storage. It comprised with three accessions of aloe viz., yellow flowering accession-1, yellow flowering accession-2 and orange flowering accession-3 and three temperatures viz., 50°C, 75°C and 100°C temperatures. The 9 treatments were evaluated in Completely Randomized Design with factorial concept in three replications (Table A).

Healthy and matured leaves of different accessions with different ages as per the treatments were harvested manually. After harvesting, aloe leaves are washed thoroughly two times. The aloetic juice was separated from the leaves by cutting them transversely at the base and kept the cut portion touching the ground. The leaf was allowed to stand in slanting position for half an hour. Thus, it helped for removal of yellow latex

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