

Evaluation of varietal differences on storage behavior and quality of potato tubers in the ambient condition

■ K. RAGHU, V. PALANIMUTHU AND SHIVABASAPPA

SUMMARY : Ten potato varieties / hybrids were tested for their storability and quality at ambient conditions. About 1 kg of sound tubers of each variety/ hybrid was stored in gunny bags (potato bags) at ambient temperature and there were 3 replications. For different varieties, the total weight loss of tubers varied from 16.01 to 28.29 per cent during 90 days of storage and overall hybrid Atlantic showed good storability.

Key Words : Varieties, Gunny bags, Hybrid, Weight loss

How to cite this paper : Raghu, K., Palanimuthu, V. and Shivabasappa (2012). Evaluation of varietal differences on storage behavior and quality of potato tubers in the ambient condition, *Internat. J. Proc. & Post Harvest Technol.*, **3** (1) : 65-69.

Research chronicle : Received : 20.10.2011; Sent for revision : 03.04.2012; Accepted : 25.04.2012

Potato is an important tuber crop. Stored potatoes deteriorate in quality due to number of reasons. This includes weight loss, sprouting and rotting of tubers. Such deterioration is pronounced when storage is done at relatively temperature. Hence, identification of genotypes with good keeping quality for few months will be of great utility.

Singh and Raghav (1999) found that Kufri Bahar followed by JX-108 showed superiority and Kufri Jawahar showed poor shelf life among the 12 cultivars evaluated for their keeping quality for a period of 120 days at room temperature.

Naik and Basavaraja (1999) evaluated 27 potato genotypes for their storability under ambient condition during October to February in Dharwad and reported that least physiological loss in weight was observed in MS/89-60 (17%) and maximum in JX-23 (44%). Least per cent sprouting was recorded in JX-108 (42.5%) followed by Kufri Jyoti (60.71%) and Kufri Jawahar

(67.4%) after four months of storage.

Kaul and Mehta (1993) compared the keeping quality of some advanced potato hybrids with Kufri Chandramukhi at room temperature. Total loss ranged between 22.0 to 39.2 per cent with minimum values in MS/78-96 (22%) and MS/79-10 (23.8%) that was comparable to Kufri Chandramukhi (23.2%). Maximum total loss was recorded in hybrids JI-5857 (Kufri Sutlej), IN-1758, JI-1857 and JH-222 (Kufri Jawahar). Sprouting percentage and sprout weight were lowest in MS/78-46 and MS/79-10.

Among the varieties used in study by Singh *et al.* (1999), only Kufri Chipsona-1 and Kufri Chipsona-2 gave low reducing sugars (below 150 mg/100 g fresh weight). Kufri Lalima showed maximum content of non-reducing sugars (10.05%) and Kufri Alankar (0.05%) accumulated minimum amounts of non-reducing sugars. Total sugars ranged from 0.59 per cent on fresh weight basis among different varieties.

MEMBERS OF THE RESEARCH FORUM

Author for Correspondence :

SHIVABASAPPA, Department of Agricultural Processing and Food Engineering, College of Agricultural Engineering and Research Institute (T.N.A.U.), COIMBATORE (T.N.) INDIA

Email : shivukandkur424@gmail.com

Coopted Authors:

K. RAGHU AND V. PALANIMUTHU, AICRP on Post Harvest Technology, University of Agricultural Sciences, G.K.V.K., BENGALURU (KARNATKA) INDIA

EXPERIMENTAL METHODS

The potato varieties/ cultivars selected for varietal trials storage study were obtained from ARS, Madenur which were grown in the experimental plots of All India Coordinated Research Project on Potato. Ten varieties/ hybrids of potato tubers namely, KCH-1, KCH-2, KCH-3, Kufri Surya, Kufri Jyoti, Atlantic, MP/98-71, MP/98-172, MP/99-322 and MP/99-406 were