# Studies on Storability of Potato in Ambient Condition

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***Abstract:***

*Globally potato (Solanum tuberosum L.) is an important food crop which saves millions of hungry people in developing countries. In India, 90 percent of potatoes are harvested in the plains in January-February at the beginning of hot summer. Seasonal production patterns, inadequate cold storage capacity, low domestic utilization, limited alternative market outlets (e.g., processing and export) often result in market gluts and poor prices at harvest resulting in economic loss to the farmers. Sometimes over production forces Indian farmers for distress sale due to lack of storage facilities or expensive cold storage. The problem may be solved by developing potato genotypes which can be stored in country storage with minimum loss. Thirty potato genotypes were evaluated for studying the keeping quality of potatoes cultivars in ambient condition to identify genotypes showing least loss during storage due to different factors like physiological as well as rottage. Genotypes V1-121, Kufri Chipsona-3 and Kufri Pushkar were found most desirable which showed minimum storage loss due to minimum reduction by combined factors causing physiological as well as rottage loss. Number of sprouts and their weight in stored tubers were found least in Kufri Sutlej and Kufri Himalini. Also Kufri Sadabahar showed maximum numbers of sprouts/tuber with minimum sprout weight and sprout length and cause low physiological loss due to sprouting.*

**Keywords:** *Potato, keeping quality, ambient temperature, West Bengal*

## I. INTRODUCTION

Potato (*Solanum tuberosum* L.) has been an important food source consumed in many different places across the globe (Suryawanshi, 2008) where total production accounts for about 47.2% of the global output (Mehta and Ezekiel., 2010). The crop has the ability to produce maximum quantity within minimum time and with use of minimum water (Lamboro *et al*., 2014). Potato production and productivity in India had shown gradual and steady increase in last 50 years and at present, India ranks fourth in area and third in production in the world (Saran and Chhabra, 2014). West Bengal is one of the important potato growing states in India where it is grown within a short period from November to February which is followed by rising temperature due to onset of summer season. Since, large portion of potato farmers of this area comes under the small and marginal category without enough financial capacity to store the produce in cold storage, they have to resort to distress sale or to store potatoes in ordinary stores for few months and sell them in the market when the prices are more remunerative (Pradhan *et al*., 2014). However, potato prices are low at harvest and, increase rapidly in April-May and are almost double in July-August (Dahiya and Sharma, 1994). Therefore, country storage may benefit the farmers if shelf life of tubers could be extended with minimum loss due to rottage, shrinkage and sprouting. Therefore, this experiment was conducted to study the keeping quality of potatoes cultivars in ambient condition to identify genotypes showing least loss during storage due to different factors like physiological as well as rottage.

## II. MATERIALS AND METHODS

Thirty potato genotypes (Kufri Jyoti, Kufri Bahar, Kufri Pushkar, Kufri Pukhraj, Kufri Sadabahar, Kufri Ashoka, Kufri Chipsona-1, Kufri Chipsona-3, Kufr Surya, Atlantic, Kufri Himalini, Kufri Shailaja, Kufri Khyati, Kufri Sutlej, MM-12, G-4, EM-1, K-22, LB-3, LB-4, LB-5, PH-1, PH-2, PH-3, PH-4, V1-121, V2-645, V3-950, V4-956 and V5-2051) were evaluated at Agricultural farm of Government of West Bengal which was located at Adisaptogram, Hoogly during the month of November for two consecutive years 2011-12 and 2012-13 in sandy clay loam with the pH above 6.0. The crop was harvested at 120 days after planting. After harvesting, potato tubers were kept for 15 days in room temperature for wound healing and curing of skin. Un-damaged and apparently healthy tubers with more than 60 g weight were selected to study the keeping quality. This experiment was laid out in Complete Randomized Design (CRD) with 3 replications. Five kg of healthy tubers of each genotype were kept in gunny bags (mouth of gunny bags were kept open) and placed at ambient room temperature. Number of tubers in 5 kg of each genotype was also counted. Storage study was started on 1st of March under ambient temperature and it ends on last week of May (90 days storage) (2012 and 2013). Temperatures were recorded at half an hour's interval by data logger (Hobo). For calculation of relative humidity, temperature was recorded daily at 9.30 AM with dry-wet bulb thermometer and

relative humidity was calculated by depression in wet bulb temperature as compared to dry bulb. Various losses with respect to storage such as physiological loss, rottage loss as well as total loss were recorded. In case of physiological loss traits considered was percent loss in physiological weight, sprouting percent, number and weight of sprouts/ tuber, length of sprout, Shrinkage of tubers as well as percent of loss in single tuber weight. Shrinkage of tuber was calculated with the help of equatorial and polar diameter. In case of rottage loss it was calculated considering the rottage loss in number as well as rottage loss in weight and the total loss was calculated by adding percent loss in physiological weight as well as rottage loss in weight. After recording the observations the data was analyzed using GENRES software.

## III. RESULTS AND DISCUSSION

### A. *Storage Environment*

The maximum and minimum temperatures and maximum and minimum relative humidity during storage period ranged between 32.4-37.3$^{o}$C, 17.5-28.0$^{o}$C, 87.3-95.7% and 29.0-67.9% for the year 2012 while it was ranged between 32.01-39.27$^{o}$C, 13.64-27.24$^{o}$C, 85.28-95.32% and 35.42-85.3%, respectively for the year 2013 (Fig.1 & Fig.2).The decrease or increase in temperature and relative humidity was associated with the fluctuation in the outer environment. Physiological, rottage as well as total loss in tubers of all genotypes increased consistently for varying period of storage. Significant variations were observed among the different genotypes for all the losses throughout the storage period (Table 1).

### B. *Physiological Loss*

Significant variations were observed among the different genotypes for percent loss in physiological weight, sprouting percent, shrinkage of tubers as well as loss in single tuber weight in case of physiological loss. In case of percent loss in physiological weight consistently maximum loss was encountered in the genotypes PH-1, V4-956, and V5-2051. Kufri Shailaja also showed continuous physiological loss throughout the storage period. Though at early storage period such loss was found minimum. Kufri Pushkar, Kufri Chipsona-3, PH-2, V1-121 and V2-645 also showed minimum physiological loss due to long time storage. However, for sprouting percent. Kufri Jyoti, MM-12, V1-121, V3-950 showed maximum sprouting percentage all along the storage period. V2-645, Kufri Sutlej, Kufri Himalini showed consistently minimum percent of sprouting and percent in sprouting of Kufri Shailaja was found to comparatively reduced after 90 days of storage. In case of shrinkage of tubers the genotypes those showing maximum or minimum shrinkage loss behaved similarly all through the storage period. The genotypes which showed maximum shrinkage loss were Kufri Chipsona-1, LB-5 and Kufri Jyoti. Minimum shrinkage loss was observed in V5-2051, Kufri Pushkar, Kufri Chipsona-3, Kufri Bahar, G-4 as well as EM-1 and rest of the genotypes found to be moderate sufferers due to desiccation. Mehta *et al*., (2006) opined that tuber weight loss in excess of 10 % reduced the marketability of potato because of shriveled appearance. Weight loss in single tuber of all the genotypes continuously increased for storage in different periods. Genotypes like V3-950, MM-12 followed by Kufri Chipsona-3, LB-5 showed maximum percent of weight loss during the storage at ambient temperature. Maximum weight loss over 20% due to 90 days of storage was found in V3-950 and MM-12 while Kufri Chipsoan-3 and LB-5 showed maximum weight loss over 10% at the end of storage period. Besides, Kufri Surya, Kufri Sutlej, Kufri Pushkar, G-4, PH-4 had shown minimum weight loss during the different period of storage and it never went beyond 6%.

### C. *Number of Sprouts/tuber, Weight of Sprouts/tuber (gm) and Length of Sprouts (mm)*

These parameters were measured at final stage of storage (Table 2). Number of sprout/tuber was found to be least in Kufri Sutlej (2.73) and Kufri Himalini showed no significant variation from the variety. Weight of sprout in these two varieties was also found very low. But, their sprout length was found to be comparatively higher than Kufri Sadabahar which showed least sprout length. But this variety was found inferior from these varieties with respect to number of sprouts/ tuber and superior with respect to weight of sprouts/tuber.

### D. *Rottage Loss*

Significant variations were also observed among the different genotypes for rottage loss due to number as well as weight. V5-2051 and V3-950 showed continuously maximum loss in percent of tuber rottage in number while maximum percent of rottage loss in weight throughout the storage period was exhibited by PH-1, V5-2051 and Kufri Shailaja with simultaneous increase in storage period and it was also reflected from pooled data. Maximum loss in number of tuber also exhibited in 60 days duration by PH-1, MM-12, Kufri Jyoti and Kufri Pukhraj and at 90 days by PH-1, MM-12 and Kufri Jyoti. In case of loss in weight V3-950 showed maximum loss from 60 days storage onwards and being reflected in pooled data. Maximum loss also depicted in Kufri Jyoti from pooled data and its maximum loss was found after 90 DOS. Minimum tuber number loss was observed in Kufri Surya throughout the storage period. Other than this variety Kufri Sutlej, LB-5, V4-956, EM-1 showed minimum loss at 30 days of storage. Atlantic, Kufri Bahar and kufri Sadabahar at 60 days of storage and Kufri Chipsona-3, Kufri Pushkar and V1-121 to 90 days of storage. Minimum rottage loss in number from pooled data also

exhibited by Kufri Surya, Kufri Pushkar, Kufri Chipsona-3, G-4, EM-1 and V1-121. Continuously minimum rottage loss by weight over the storage period was depicted by V1-121, K-22, Kufri Pushkar, Kufri Chipsona-1, Kufri Chipsona-3 which was also reflected in pooled data. Kufri Chipsoan-3, V1-121 and Kufri Pushkar showed minimum loss due to rottage by number as well as by weight while Kufri Jyoti, V3-950 and V5-2051 showed maximum in number as well as in weight during storage period.

### *E. Total Loss (Percent Loss in Physiological weight + Rottage Loss in Weight)*

Genotypes like V2-645, V1-121, PH-2, Kufri Pushkar, Kufri Chipsona-3 were found as most desirable as these showed minimum total loss throughout the storage period which was also reflected from pooled data. Minimum total loss also exhibited at 30 DOS by G-4, Kufri Chipsona-1 and at 60 days by Kufri Chipsona-1 and Kufri Bahar and at 90 days by Kufri Bahar and PH-4 also. On the other hand, maximum total loss all over the storage period was exhibited by PH-1, V5-2051, Kufri Shailaja, Kufri Jyoti, and V3-950 which was also reflected in pooled data. Increase in physiological loss and rottage loss with increasing period of storage irrespective of cultivars were also exhibited by Kumar *et al*., (2001). Jaiswal *et al*., (2003) as well as Bhutani and Khurana, (2005) also observed that Kufri Pushkar had minimum sprouting and least physiological and total loss and could be considered as an efficient genotype for long time storage in ambient temperature.

## IV. CONCLUSION

Genotypes V1-121, Kufri Chipsona-3 and Kufri Pushkar were found most desirable which showed minimum storage loss due to minimum reduction by combined factors causing physiological as well as rottage loss. Number of sprouts and their weight in stored tubers were found least in Kufri Sutlej and Kufri Himalini. These genotypes could be considered as dormant and could be utilized to improve other desirable genotypes showing extended shelf life but sprouted to a certain extent and such genotypes were Kufri Chipsona-3, V1-121, Kufri Pushkar, V2-645 as well as Kufri Surya, LB-4. The intermediate level in yield of PH-2, G-4 and PH-3 showing extended shelf life could be improved on combination with V1-121 as well as V2-645. Also Kufri Sadabahar showed maximum numbers of sprouts/tuber with minimum sprout weight and sprout length and cause low physiological loss due to sprouting and which might due to minimum requirement of energy for development of sprouts and for which such genotypes could be considered as most desirable for storage for longer duration.

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**Figure 1: Meteorological Data During Storage Period of 2011-12.**

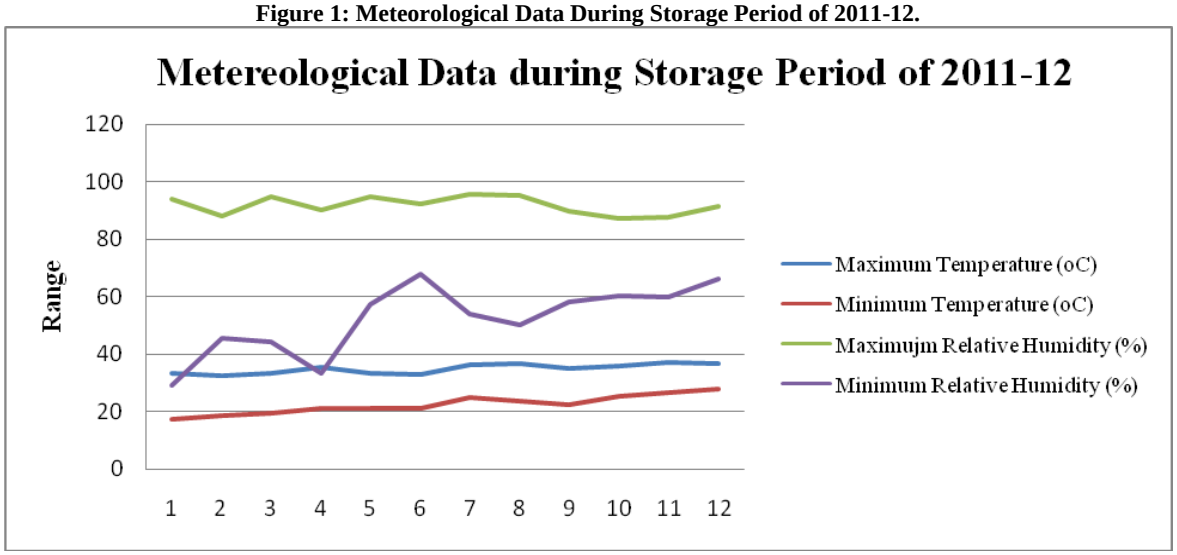


**Figure 2: Meteorological Data During Storage Period of 2012-13.**

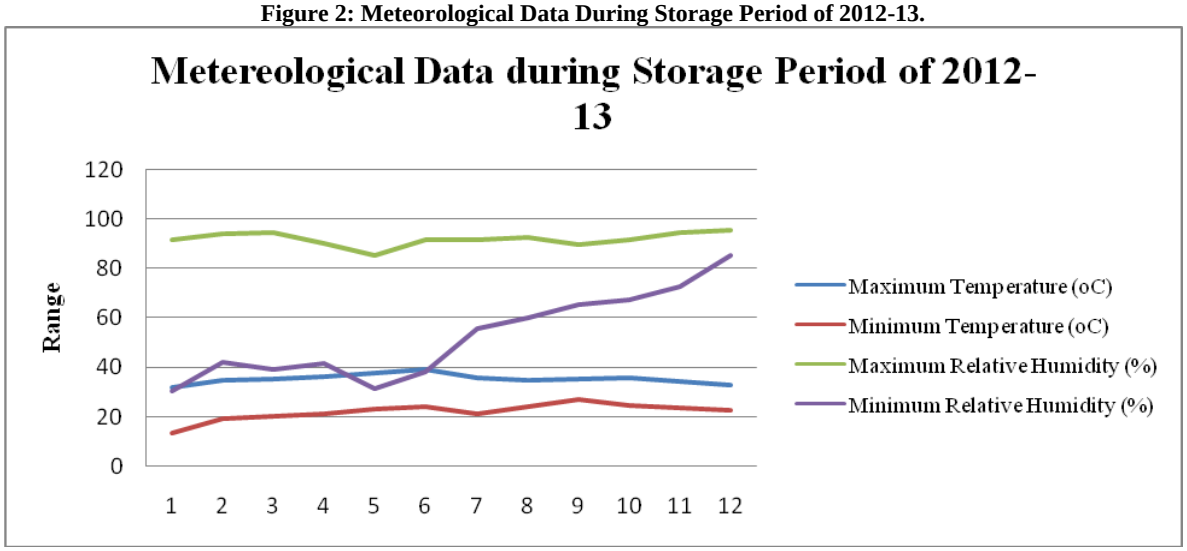

**Table 1: Behaviour of the Potato Cultivars at Room Temperature for Varying Period of Storage (data pooled over 2011-12 & 2012-2013).**

| | Physiological loss | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Genotypes** | **Percent loss in physiological weight** | | | | **Sprouting percent** | | | | **Shrinkage of tubers** | | | | **Loss in single tuber weight (%)** | | | |
| | **30 D** | **60 D** | **90 D** | **Pooled** | **30 D** | **60 D** | **90 D** | **Pooled** | **30 D** | **60 D** | **90 D** | **Pooled** | **30 D** | **60 D** | **90 D** | **Pooled** |
| Kufri Jyoti | 7.24 | 25.10 | 33.89 | 22.08 | 98.20 | 99.05 | 99.05 | 98.77 | 1.21 | 1.95 | 3.98 | 2.38 | 1.92 | 4.41 | 7.30 | 4.54 |
| Kufri Bahar | 7.62 | 9.80 | 13.50 | 10.31 | 34.26 | 74.60 | 97.67 | 68.84 | 0.84 | 0.93 | 1.06 | 0.94 | 2.83 | 4.87 | 9.47 | 5.72 |
| Kufri Pushkar | 5.08 | 7.63 | 14.31 | 9.01 | 13.18 | 86.30 | 99.22 | 66.23 | 0.56 | 0.69 | 0.79 | 0.68 | 1.51 | 2.74 | 4.80 | 3.02 |
| Kufri Pukhraj | 9.34 | 19.63 | 24.90 | 17.96 | 27.44 | 85.98 | 98.16 | 70.53 | 0.94 | 1.16 | 1.34 | 1.15 | 2.22 | 4.75 | 12.16 | 6.38 |
| Kufri Sadabahar | 9.09 | 12.17 | 19.47 | 13.57 | 40.28 | 93.17 | 99.00 | 77.48 | 1.03 | 1.33 | 1.93 | 1.43 | 2.92 | 5.05 | 8.92 | 5.63 |
| Kufri Ashoka | 9.95 | 15.80 | 22.20 | 15.98 | 10.08 | 51.27 | 92.33 | 51.23 | 0.80 | 0.97 | 1.73 | 1.17 | 1.94 | 4.07 | 9.15 | 5.05 |
| Kufri Chipsona-1 | 12.56 | 19.80 | 29.64 | 20.66 | 44.37 | 86.55 | 98.56 | 76.49 | 0.99 | 1.70 | 5.85 | 2.85 | 1.64 | 3.19 | 6.99 | 3.94 |
| Kufri Chipsona-3 | 4.73 | 10.07 | 13.76 | 9.52 | 86.96 | 97.72 | 97.90 | 94.19 | 0.73 | 0.95 | 1.58 | 1.09 | 6.91 | 9.40 | 11.52 | 9.28 |
| Kufri Surya | 4.53 | 9.26 | 17.07 | 10.29 | 68.65 | 97.86 | 98.49 | 88.33 | 0.46 | 0.70 | 1.01 | 0.72 | 1.33 | 2.42 | 5.18 | 2.97 |
| Atlantic | 10.47 | 16.22 | 27.34 | 18.01 | 47.70 | 90.70 | 98.82 | 79.07 | 0.75 | 1.15 | 2.01 | 1.30 | 2.53 | 6.75 | 10.97 | 6.75 |
| Kufri Himalini | 10.16 | 22.57 | 30.34 | 21.02 | 5.23 | 32.38 | 42.66 | 26.76 | 0.63 | 1.06 | 1.14 | 0.95 | 2.19 | 5.14 | 8.90 | 5.41 |
| Kufri Shailaja | 11.51 | 26.43 | 34.63 | 24.19 | 10.45 | 25.75 | 31.33 | 22.51 | 0.53 | 1.12 | 1.40 | 1.02 | 3.52 | 6.49 | 10.68 | 6.90 |
| Kufri Khyati | 4.18 | 8.20 | 21.42 | 11.26 | 45.78 | 80.22 | 99.27 | 75.09 | 1.11 | 1.20 | 1.39 | 1.24 | 2.07 | 3.97 | 9.15 | 5.07 |
| Kufri Sutlej | 10.29 | 16.86 | 25.00 | 17.38 | 1.25 | 10.69 | 13.67 | 8.53 | 0.79 | 1.12 | 1.41 | 1.10 | 1.73 | 2.87 | 4.37 | 2.99 |
| MM-12 | 7.15 | 16.13 | 30.46 | 17.92 | 97.53 | 99.53 | 99.55 | 98.87 | 1.19 | 1.59 | 2.97 | 1.92 | 3.88 | 7.40 | 22.46 | 11.25 |
| G-4 | 3.34 | 13.82 | 17.18 | 11.45 | 41.48 | 84.10 | 99.60 | 75.06 | 0.69 | 0.95 | 1.12 | 0.92 | 1.63 | 2.71 | 5.00 | 3.11 |
| EM-1 | 2.89 | 10.67 | 21.20 | 11.58 | 60.63 | 98.83 | 99.36 | 86.27 | 0.79 | 1.06 | 1.08 | 0.98 | 2.05 | 3.95 | 8.15 | 4.72 |
| K-22 | 9.92 | 12.97 | 24.70 | 15.86 | 5.74 | 22.15 | 95.88 | 41.26 | 1.30 | 1.89 | 2.73 | 1.97 | 1.75 | 3.74 | 9.04 | 4.84 |
| LB-3 | 9.48 | 13.77 | 23.23 | 15.49 | 60.86 | 98.79 | 99.00 | 86.21 | 1.10 | 1.24 | 1.51 | 1.28 | 2.17 | 3.71 | 8.04 | 4.64 |
| LB-4 | 10.96 | 15.33 | 21.70 | 16.00 | 25.30 | 84.10 | 99.00 | 69.47 | 1.25 | 1.82 | 2.24 | 1.77 | 1.71 | 3.72 | 6.54 | 3.99 |
| LB-5 | 12.24 | 12.07 | 20.20 | 14.84 | 29.30 | 66.11 | 98.90 | 64.77 | 1.31 | 1.29 | 4.08 | 2.23 | 1.88 | 4.68 | 15.01 | 7.19 |
| PH-1 | 23.99 | 31.87 | 42.65 | 32.84 | 32.32 | 79.20 | 95.67 | 69.06 | 1.06 | 1.22 | 1.30 | 1.19 | 3.27 | 7.52 | 10.89 | 7.23 |
| PH-2 | 4.13 | 5.30 | 15.64 | 8.35 | 35.95 | 74.27 | 97.33 | 69.19 | 0.96 | 1.00 | 1.18 | 1.05 | 1.71 | 4.10 | 7.95 | 4.59 |
| PH-3 | 7.35 | 11.67 | 17.15 | 12.05 | 13.60 | 71.27 | 99.04 | 61.31 | 1.13 | 1.38 | 1.95 | 1.49 | 2.31 | 5.06 | 11.31 | 6.23 |
| PH-4 | 11.25 | 12.75 | 15.13 | 13.04 | 37.61 | 52.73 | 76.67 | 55.67 | 1.31 | 1.53 | 2.80 | 1.88 | 2.03 | 3.51 | 5.70 | 3.75 |
| V1-121 | 4.28 | 8.47 | 11.70 | 8.15 | 99.02 | 99.12 | 99.22 | 99.12 | 1.76 | 1.99 | 2.10 | 1.95 | 2.09 | 6.36 | 10.32 | 6.26 |
| V2-645 | 2.38 | 9.27 | 9.83 | 7.16 | 7.13 | 27.68 | 48.67 | 27.82 | 0.95 | 1.08 | 1.96 | 1.33 | 2.18 | 4.21 | 7.83 | 4.74 |
| V3-950 | 10.44 | 24.93 | 41.77 | 25.71 | 97.38 | 98.37 | 98.37 | 98.04 | 1.11 | 1.58 | 1.77 | 1.49 | 7.42 | 12.46 | 21.73 | 13.87 |
| V4-956 | 13.47 | 24.28 | 31.11 | 22.95 | 43.47 | 89.19 | 99.34 | 77.33 | 0.80 | 1.06 | 1.34 | 1.07 | 1.69 | 3.62 | 7.13 | 4.14 |
| V5-2051 | 15.81 | 26.93 | 33.78 | 25.51 | 11.22 | 26.46 | 59.08 | 32.25 | 0.33 | 0.59 | 0.76 | 0.56 | 1.71 | 3.25 | 7.33 | 4.10 |
| **Mean** | **8.86** | **15.66** | **23.50** | **16.01** | **41.08** | **72.80** | **87.69** | **67.19** | **0.95** | **1.24** | **1.92** | **1.37** | **2.49** | **4.87** | **9.47** | **5.61** |
| **CD (5%)** | **1.678** | **2.550** | **3.215** | **2.330** | **11.399** | **10.429** | **8.742** | **9.147** | **0.114** | **0.138** | **0.416** | **0.200** | **0.524** | **0.808** | **1.567** | **0.901** |

**Table 1 continues….**

| Genotypes | Rottage loss | | | | | | | | Total loss of tubers during storage | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Percent of loss in number | | | | Percent of loss in weight | | | | | | | |
| | **30 D** | **60 D** | **90 D** | **Pooled** | **30 D** | **60 D** | **90 D** | **Pooled** | **30 D** | **60 D** | **90 D** | **Pooled** |
| Kufri Jyoti | 7.27 | 12.46 | 18.51 | 12.75 | 4.62 | 9.11 | 14.66 | 9.46 | 11.86 | 34.21 | 48.57 | 31.55 |
| Kufri Bahar | 2.69 | 2.69 | 8.84 | 4.74 | 1.75 | 2.90 | 4.11 | 2.92 | 9.37 | 12.69 | 17.62 | 13.23 |
| Kufri Pushkar | 1.55 | 3.29 | 5.60 | 3.48 | 0.88 | 2.68 | 5.44 | 3.00 | 5.95 | 10.31 | 19.75 | 12.00 |
| Kufri Pukhraj | 4.24 | 12.08 | 14.53 | 10.29 | 4.90 | 7.85 | 11.87 | 8.21 | 14.25 | 27.48 | 36.77 | 26.17 |
| Kufri Sadabahar | 2.44 | 2.44 | 7.03 | 3.97 | 2.29 | 2.75 | 5.28 | 3.44 | 11.37 | 14.91 | 24.75 | 17.01 |
| Kufri Ashoka | 4.43 | 7.56 | 9.64 | 7.21 | 3.53 | 6.39 | 8.78 | 6.23 | 13.48 | 22.19 | 30.97 | 22.22 |
| Kufri Chipsona-1 | 3.16 | 3.16 | 11.68 | 6.00 | 4.95 | 7.97 | 9.14 | 7.35 | 17.51 | 27.77 | 38.77 | 28.01 |
| Kufri Chipsona-3 | 1.65 | 3.47 | 5.59 | 3.57 | 1.29 | 2.24 | 2.67 | 2.07 | 6.02 | 12.31 | 16.44 | 11.59 |
| Kufri Surya | 0.11 | 1.14 | 5.88 | 2.38 | 1.05 | 2.81 | 3.80 | 2.55 | 5.58 | 12.08 | 20.86 | 12.84 |
| Atlantic | 1.46 | 2.42 | 9.32 | 4.40 | 2.29 | 5.29 | 8.80 | 5.46 | 12.76 | 21.50 | 36.14 | 23.47 |
| Kufri Himalini | 4.40 | 9.01 | 10.64 | 8.02 | 1.69 | 3.09 | 8.37 | 4.38 | 11.85 | 25.65 | 38.69 | 25.40 |
| Kufri Shailaja | 4.00 | 8.84 | 10.82 | 7.89 | 5.42 | 9.31 | 12.52 | 9.08 | 16.93 | 35.74 | 47.15 | 33.27 |
| Kufri Khyati | 2.71 | 6.41 | 13.29 | 7.47 | 2.47 | 6.56 | 11.75 | 6.93 | 6.65 | 14.76 | 33.16 | 18.19 |
| Kufri Sutlej | 3.17 | 8.07 | 9.26 | 6.83 | 3.06 | 8.39 | 9.22 | 6.89 | 13.35 | 25.26 | 34.22 | 24.28 |
| MM-12 | 3.40 | 6.48 | 21.59 | 10.49 | 2.77 | 11.02 | 11.91 | 8.57 | 9.92 | 27.16 | 42.36 | 26.48 |
| G-4 | 0.11 | 3.09 | 8.65 | 3.95 | 0.87 | 9.15 | 11.39 | 7.14 | 4.21 | 22.97 | 28.58 | 18.59 |
| EM-1 | 1.36 | 3.44 | 6.20 | 3.67 | 1.10 | 6.41 | 7.71 | 5.08 | 3.99 | 17.08 | 28.91 | 16.66 |
| K-22 | 4.36 | 4.36 | 7.55 | 5.42 | 0.72 | 2.37 | 5.66 | 2.92 | 10.64 | 15.34 | 30.36 | 18.78 |
| LB-3 | 5.88 | 7.99 | 10.99 | 8.28 | 2.42 | 4.32 | 9.53 | 5.42 | 11.91 | 18.08 | 32.77 | 20.92 |
| LB-4 | 1.68 | 7.34 | 9.31 | 6.11 | 3.03 | 5.50 | 8.85 | 5.79 | 13.99 | 20.83 | 30.55 | 21.79 |
| LB-5 | 1.24 | 5.28 | 7.84 | 4.78 | 0.80 | 2.92 | 4.08 | 2.60 | 13.04 | 14.98 | 24.28 | 17.43 |
| PH-1 | 14.22 | 23.54 | 25.52 | 21.09 | 12.61 | 14.51 | 18.63 | 15.25 | 36.61 | 46.38 | 61.28 | 48.09 |
| PH-2 | 1.32 | 7.23 | 11.41 | 6.66 | 0.76 | 5.11 | 8.89 | 4.92 | 4.89 | 10.40 | 24.53 | 13.27 |
| PH-3 | 6.01 | 7.91 | 9.08 | 7.67 | 5.81 | 6.86 | 10.22 | 7.63 | 13.16 | 18.52 | 27.36 | 19.68 |
| PH-4 | 3.65 | 8.59 | 13.48 | 8.58 | 2.65 | 6.69 | 7.51 | 5.62 | 13.90 | 19.44 | 22.64 | 18.66 |
| V1-121 | 1.41 | 4.64 | 4.81 | 3.62 | 0.62 | 1.97 | 3.99 | 2.19 | 4.90 | 10.44 | 15.69 | 10.34 |
| V2-645 | 2.71 | 4.18 | 8.69 | 5.19 | 1.74 | 2.86 | 5.26 | 3.29 | 4.12 | 12.12 | 15.10 | 10.45 |
| V3-950 | 8.98 | 16.00 | 22.94 | 15.97 | 4.45 | 12.79 | 18.47 | 11.91 | 14.90 | 37.73 | 60.24 | 37.62 |
| V4-956 | 1.17 | 3.69 | 7.29 | 4.05 | 0.80 | 3.02 | 6.23 | 3.35 | 14.28 | 27.29 | 37.34 | 26.30 |
| V5-2051 | 9.40 | 11.54 | 13.55 | 11.50 | 7.33 | 10.14 | 12.37 | 9.95 | 23.14 | 37.07 | 46.16 | 35.46 |
| **Mean** | **3.67** | **6.94** | **10.98** | **7.20** | **2.96** | **6.10** | **8.90** | **5.99** | **11.82** | **21.76** | **32.40** | **21.99** |
| **CD (5%)** | **1.146** | **1.758** | **1.937** | **1.520** | **0.953** | **1.264** | **1.509** | **1.169** | **2.461** | **3.525** | **4.497** | **3.309** |

**Here**; **30 D** = after 30 days of storage, **60 D** = after 60 days of storage, **90 D** = after 90 days of storage

**Table 2: Sprouting Behaviour of the Potato Cultivars at Room Temperature Storage (data pooled over 2011-12 & 2012-2013).**

| Genotypes | Number of sprouts tuber$^{-1}$ | Weight of sprout tuber$^{-1}$(gm) | Length of sprout(mm) |
|---|---|---|---|
| Kufri Jyoti | 5.87 | 3.07 | 21.58 |
| Kufri Bahar | 8.63 | 1.59 | 18.43 |
| Kufri Pushkar | 7.50 | 1.76 | 20.99 |
| Kufri Pukhraj | 6.53 | 5.39 | 18.44 |
| Kufri Sadabahar | 9.67 | 0.10 | 3.46 |
| Kufri Ashoka | 7.42 | 0.92 | 15.43 |
| Kufri Chipsona-1 | 6.93 | 0.91 | 14.06 |
| Kufri Chipsona-3 | 8.63 | 1.69 | 16.04 |
| Kufri Surya | 6.75 | 0.46 | 14.24 |
| Atlantic | 7.88 | 3.83 | 17.92 |
| Kufri Himalini | 2.83 | 0.54 | 14.83 |
| Kufri Shailaja | 3.62 | 1.74 | 18.44 |
| Kufri Khyati | 6.62 | 2.60 | 22.63 |
| Kufri Sutlej | 2.73 | 0.54 | 10.18 |
| MM-12 | 4.83 | 3.95 | 16.08 |
| G-4 | 5.88 | 0.42 | 14.54 |
| EM-1 | 6.82 | 0.74 | 15.13 |
| K-22 | 8.88 | 0.39 | 11.98 |
| LB-3 | 3.67 | 0.48 | 18.02 |
| LB-4 | 5.77 | 1.64 | 15.30 |
| LB-5 | 6.87 | 1.37 | 15.97 |
| PH-1 | 5.42 | 1.58 | 15.35 |
| PH-2 | 5.15 | 1.36 | 22.30 |
| PH-3 | 6.42 | 2.25 | 20.61 |
| PH-4 | 6.88 | 0.66 | 15.29 |
| V1-121 | 7.42 | 1.89 | 26.02 |
| V2-645 | 4.75 | 0.81 | 18.01 |
| V3-950 | 6.88 | 6.47 | 22.50 |
| V4-956 | 6.67 | 1.76 | 19.79 |
| V5-2051 | 4.67 | 1.99 | 19.88 |
| **Mean** | **6.28** | **1.76** | **17.11** |
| **CD (5%)** | **0.64** | **0.55** | **1.61** |