

# Alternative use of cooling effect of earthen pot for increasing shelf life of vegetables

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## SUMMARY

The purpose of study is the alternative use of cooling effect of earthen pot used in household. For this purpose experiment was conducted on earthen pot. The experiment was conducted with 12 vegetables and 6 sample. Based on the performance of condition of vegetables, they were graded as 100-fresh vegetable condition, 75-good vegetable condition, 50-average vegetable condition, and 25-a poor vegetable condition. The average shelf life increased was 2 days.

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**Key words :** Shelf life, Cooling effect, Earthen pot

The vegetables used in household are purchased to use for 5-6 days in a week from market. After 2-3 days of consumption of vegetables, there is steady decrease in shelf life of vegetables. So at least there is need of increasing the shelf life of vegetables by 3-4 days till next purchase made. Although electric refrigeration is available, it is not economical. Generally there is a weekly market in India. So it is necessary to maintain a week a vegetable

Historically earthen pot is mostly used for making water cooler in summer season throughout India. At present nearly 50 % of population is regularly using earthen pot for drinking cooler water. So alternative use of earthen pot will be effective as carrying zero cost of operation. Earthen pot is working on the principle of evaporative cooling. It is used popularly in villages. It is known as poor refrigerators for cool water. So it is the effort to make earthen pot as poor people preservations for vegetables.

## Earthen pot:

Earthen pot was chosen from the market of size 0.4 m in diameter and 1 m in height .It has made attachment of tin box of vegetables oil (empty). It was attached to earthen pot and made the door arrangement like refrigerator.

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## Data :

The data needed for the study were collected from observation of vegetable using predefined schedule.

The main finding in the experiment are presented in Table 1. Data of Table 1 have been presented in Fig. 1-6. From Fig. 1 the shelf life was increased by 2 day, from

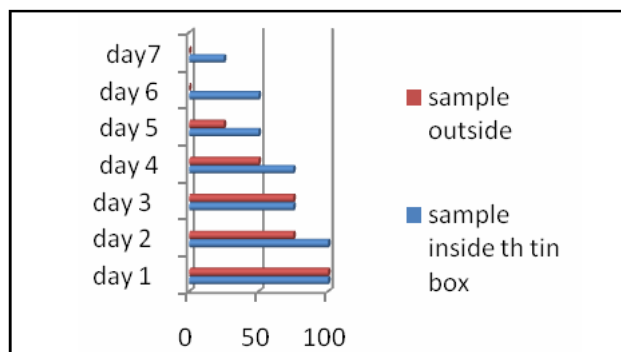


Fig. 1 : Sample 1 and week 1

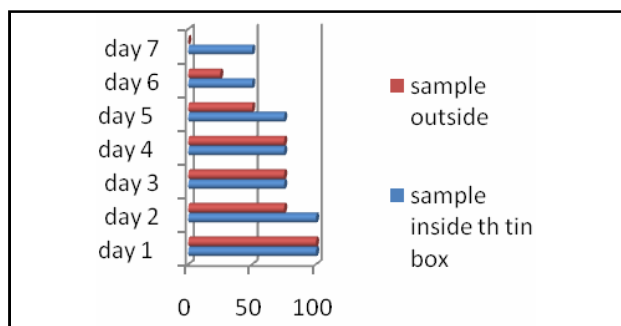


Fig. 2 : Sample 2 and week 2

| Table 1 : Vegetable condition observation |                    |          |                    |          |                    |         |                    |         |                    |         |                    |         |
|---|--------------------|----------|--------------------|----------|--------------------|---------|--------------------|---------|--------------------|---------|--------------------|---------|
| Day                                       | Sample 1/week 1    |          | Sample 2/week 2    |          | Sample 3/week 3    |         | Sample 4/week 4    |         | Sample 5/week 5    |         | Sample 6/week 6    |         |
|   | Inside the tin box | Out side | Inside the tin box | Out side | Inside the tin box | Outside | Inside the tin box | Outside | Inside the tin box | Outside | Inside the tin box | Outside |
| 1   | 100                | 100      | 100                | 100      | 100                | 100     | 100                | 100     | 100                | 100     | 100                | 100     |
| 2   | 100                | 75       | 100                | 75       | 100                | 75      | 100                | 75      | 100                | 75      | 100                | 75      |
| 3   | 75                 | 75       | 75                 | 75       | 100                | 75      | 75                 | 50      | 75                 | 50      | 75                 | 50      |
| 4   | 75                 | 50       | 75                 | 75       | 75                 | 50      | 50                 | 0       | 75                 | 0       | 50                 | 25      |
| 5   | 50                 | 25       | 75                 | 50       | 75                 | 0       | 50                 | 0       | 50                 | 0       | 50                 | 0       |
| 6   | 50                 | 0        | 50                 | 25       | 75                 | 0       | 25                 | 0       | 25                 | 0       | 25                 | 0       |
| 7   | 25                 | 0        | 50                 | 0        | 50                 | 0       | 0                  | 0       | 0                  | 0       | 0                  | 0       |

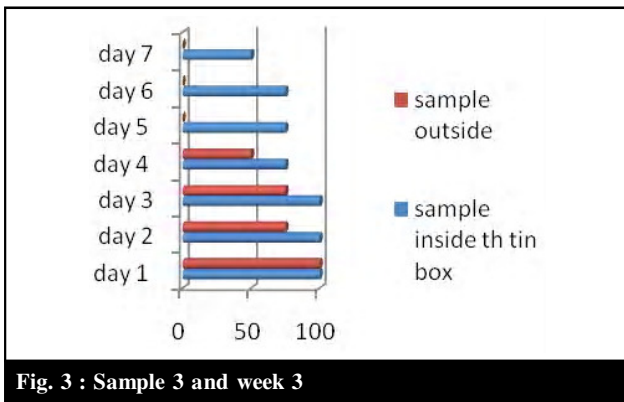


Fig. 3 : Sample 3 and week 3

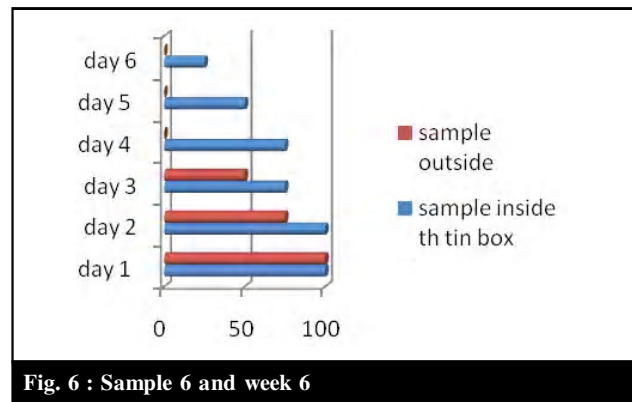


Fig. 6 : Sample 6 and week 6

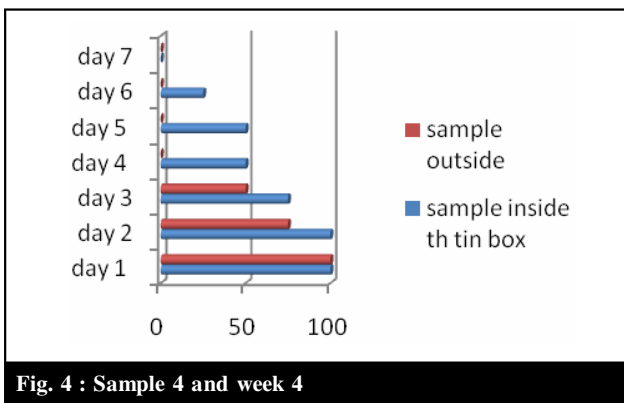


Fig. 4 : Sample 4 and week 4

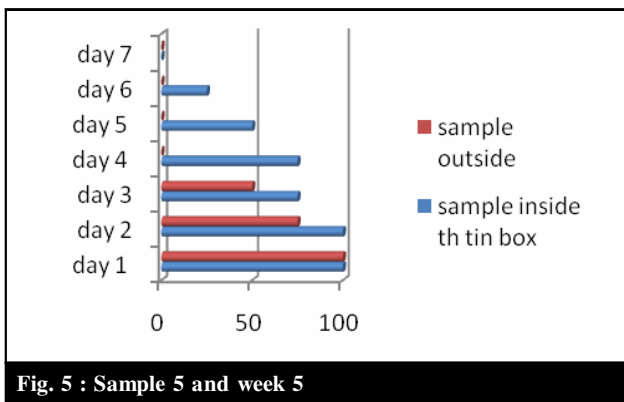


Fig. 5 : Sample 5 and week 5

Fig. 2 shelf-life was increased by 2 day, from Fig. 3 shelf life is increased by 3 day, from Fig. 4 shelf life was increased by 2 day, from Fig. 5 shelf life was increased by 2 day, from Fig. 6 shelf life was increased by 2 day. It is seen that shelf life of vegetable inside the tin box utilizing cooling effect was effective in maintaining the condition of vegetables in use.

**Conclusion:**

As the shelf life of vegetable increased by average 2 day which is feasible according to market schedule of 6 day. So use of cooling effect at zero cost is advantageous. At least use of earthen pot gives benefit of increased shelf life of 2 days. So favourable results was directed towards use of alternative use of earthen pot. The study made is effective and significantly increasing the life of vegetables. Regarding the use of cooling effect participation in DIPEX Expo at Kolhapur reported 60 % interest in adoption of use.

**REFERENCES**

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