

# Press Drying of Flower

Darshan .S .N

**Abstract:** Flowers have always remained an integral part of mankind and love for natural flowers is an inherent instinct. Flowers are mainly grown for cut flowers and loose flowers purpose. By using best postharvest techniques, we can preserve the flowers ranging from few days to few weeks, but drying or dehydration is a technique by which flowers can be preserved for months to years. Dry flowers and plant materials have tremendous potential as substitute for fresh flowers and foliage for interior decoration as well as for a variety of other aesthetic and commercial uses. Rapid growth in the demand for dry flowers is highly noticeable. Keeping this in view experiment was conducted to dry the flowers using press drying method by taking various flowers. This could eventually be helpful in drawing the attention of the researchers and scientists to work on it, besides the entrepreneurs would be directly benefited by utilizing the knowledge review in this paper.

**Keywords:** Drying, Flower

## 1. Introduction

Flowers are closely associated with mankind since the ancient time. The scope and importance of flowers have been realized throughout the world such that floriculture has developed into a profitable industry in this modern era. Fresh flowers, though extremely beautiful, highly expensive, perishable and delicate in nature unfortunately their freshness can't be sustained for a long time, even though after using artificial chemical agent to enhance their vase life. As a result, the availability of fresh flowers round the year is very minimal. In this contest flowers can be dried, preserved and processed to retain their beauty and value. Dried ornamental plant parts are generally less expensive and are sought for their everlasting and attractive appearance (Smith 2000). Dried flowers are affordable and offer an attractive appearance longevity and year round availability (Malcolm 1994). Drying of flowers and foliage by various methods like air drying, sun drying oven and microwave oven drying, freeze drying and embedded drying can be used for making decorative floral segments like wall hangings, landscape calendars, potpourries and others for various purposes (Hiller 1994). In 'The Florist' Published in 1860, authors describes the techniques of drying red roses, pansies, stock and other single flowers in sand. Though drying of flowers is well known even in the past but for the first time the flowers were dried commercially in Germany (Louis and Gibson 1982). Now a days, a rapid growth in the demand for

dry flowers is highly noticeable. However, in India there is no much export potential of dry flower industry till date, the export of dry flowers from India during 2013-14 was Rs.363.3 crore (Perin ban et al, 2014). The Indian export basket comprise of 71% of dry flowers which are exported to USA, Europe, Japan, Australia, far East and Russia. Dry flowers constitute more than two-thirds of the total floriculture exports. The demand for dry flowers is increasing at an impressive rate of 8-10% annually thus offering a lot of opportunities for the Indian entrepreneurs to enter into the global floricultural trade (Singh 2009).

## 2. Materials and Methods

The experiment was carried out at college of Horticulture, Mysuru, Karnataka, India to study the drying of flowers and eight different types of flowers were selected to carry out the experiment. Immediately after harvesting flowers were brought to the laboratory. Initial weight of the fresh flowers measured, and then flowers are placed between the folds of newspaper sheets by giving some space among flowers. These sheets are kept one above the other and corrugated boards of the same size are placed in between the folded sheets so as to allow the water vapour to escape and to avoid fungal growth. The dry weight of the experimenting object was measured consequently on third, fourth and fifth day of the experiment. The percentage of dry weight of flowers is calculated using the formula.

$$\text{Dry weight \% of flowers} = \frac{\text{Initial weight of flower} - \text{Dry weight of flowers}}{\text{Initial weight of flower}} * 100$$

The data were statistically analysed with the help of computer using completely Randomized Design. The significance of variance among the treatments was observed by applying "F" test and critical difference at 5% level of probability.

## 3. Results and Discussion

On drying *Plumbagocapensis* (unopened) flowers showed the lowest flower weight taken as shown from five flower weight (1.01) g followed by *Vincarosea* (1.19) g. While *Hibiscus rosa-sinensis* flowers showed the highest initial flower weight (6.02) g followed by *Plumeriapudica* (3.81) g. Chen et al. (2000) reported stronger and stiffer petals in dried flowers having low moisture content.

Dry weight of the flowers was lowest in *Vincarosea* (0.20) g followed by *Plumbagocapensis* (opened) flowers (0.22) and *Plumbagocapensis* (unopened) flowers (0.24) gms respectively. A range of 8-11.5% moisture content in the dried flowers will ensure good quality, firmness and maintained keeping quality for more than six months (Pandey, 2001).

*Hibiscus rosasinensis* showed the highest drying percentage (88.22) % followed by *Plumbagocapensis* opened flowers (84.46) % which was on par with *Vincarosea* (83.20) % and *Plumeriapudica* (81.97) %. While lowest drying capacity of flowers was shown by *Lantana camera* (73.48) %. Some of the flowers lose its ornamental value after drying. Sweet pea

Volume 8 Issue 6, June 2019

[www.ijsr.net](http://www.ijsr.net)

Licensed Under Creative Commons Attribution CC BY

flowers when pressed dried loose colour and become dark brown which is not suitable for further use (Louis and Gibson 1982).

*Bougainvillea spectabilis* white (1.90) days took least number of days for drying followed by *Bougainvillea spectabilis* (3.00) days. Whereas *Plumeriapudica* (4.97) days and *Plumbagocapensis* (unopened) flowers (4.74) days took highest number of days for drying. Earlier Lourdasamy

*et al.* (2001) found that press drying is the earliest method of preserving flowers and suggested that flowers like candytuft, chrysanthemum, lantana, rose, verbena, euphorbia and leaves like thuja, ferns, silver-oaks, etc are suitable for press drying. Gill *et al.* (2002b) reported the time required for press drying of different flower crops and they concluded that rose, carnation and helichrysum required 120, 132 and 72 h, respectively for press drying.

**Table 1:** Drying parameters of different species of flower crops

Sl. No.	Species	Initial weight of flowers	Dry weight of flowers	Dry weight (%) of flowers	Days taken for flower drying
1	<i>Lantana camera</i>	1.36	0.36	73.48	3.63
2	<i>Plumeriapudica</i>	3.81	0.69	81.97	4.97
3	<i>Bougainvilleaspectabilis(pink)</i>	2.10	0.50	76.03	3.00
4	<i>Vincarosea</i>	1.19	0.20	83.20	4.17
5	<i>Bougainvillea spectabilis(white)</i>	1.61	0.35	78.61	1.90
6	<i>Hibiscus rosasinensis</i>	6.02	0.71	88.22	3.82
7	<i>Plumbagocapensis(opened)</i>	1.39	0.22	84.46	3.85
8	<i>Plumbagocapensis(unopened)</i>	1.01	0.24	76.81	4.74
	CD at 5 %	0.14	0.04	2.54	0.44
	SE	0.05	0.01	0.84	0.14
	CV%	3.51	6.26	1.81	6.64

#### 4. Conclusion

The experiment was conducted to dry the flowers using press drying method by taking various flowers. *Hibiscus rosasinensis* showed the highest drying percentage (88.22 %) and *Lantana camera* showed the lowest drying percentage (73.48 %) among other flowers. *Bougainvillea spectabilis* (white) took least number of days (1.90 days) for drying and *Plumeriapudica* took highest number of days (4.97days) for drying among other flowers.

#### References

- [1] Bhutani JC (1990) Capturing nature, a way with flower "Everlastings". *IndianHorticulture* 34 (4), 15-19
- [2] Chen W, Gast KLB, Smithey S (2000) The effects of different freeze-drying processes on the moisture content, colour and physical strength of roses and carnations. *ScientiaHorticulturae*84 (3/4), 321-332
- [3] Gill SS, Bakhshi R, Arora S (2002b) Standardization of drying methods for certain cut flowers. Proceedings of the National Symposium on Indian Floriculture in the New Millennium, LalBagh, Bangalore, pp 357-358.
- [4] Hiller M (1994) *Guide to Arranging Dried Flowers. Step by Step Handbook of Growing, Drying and Displaying*, Dorling Kindersley Ltd., London, 230.
- [5] Louis J, Gibson L (1982) *The Complete Guide to Drying and PreservingFlowers*, Webb and Bower Ltd., England, 280.
- [6] Lourdasamy, D.K., Vadivel, E. and Azhakiyamanavalan, R.S., 2001, Research and development in dry flower technology. *Flori.Today*. 5: 8-13. 46.
- [7] Malcolm H. Guide to arranging dried flowers. Step by step handbook of growing, drying and displaying, Dorling Kindersley Ltd. London, 1994.
- [8] Pandey HP, Saxena OP, Nell TA, Clark D. G., 2001, Preservation of Chrysanthemum sp. by drying. *Acta Hort*. 543, 367-369.

- [9] Perinban, S., Majumdar, J., Singh, B., Rai, T. and Kumar, R. 2014. Dried flowers: a new paradigm in Floriculture. <http://www.krishisewa.com/cms/articles/pht/394-dried-flowers.html>.
- [10] Smith A (2000) Even better than the real thing. *Flower Business International*, September, 25-28
- [11] Singh HP (2009) Floriculture industry in India: the bright future ahead. *IndianHorticulture* 54 (2), 3-8