Dry Flowers and Floral Craft: For Better Subsistence and Women Empowerment

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Abstract

The preservation of flowers and maintaining their natural form is an interesting art. The various flowers, leaves and other botanicals can be dried for ornamentation and decoration purposes. Unlike fresh flowers that easily slack their charm and beauty, dried flowers are cheaper more lasting and can be maintained from few months to years with a little or no care. Dry flower industry is a leading unit of floriculture industry and shares 71% of total floriculture export. The dry flower industry in India includes dehydrated flowers, foliages and seeds etc. The need for dry flowers amongst masses is rapidly increasing, thus creating job opportunities for people in abundance especially to rural women's and housewives. The present paper describes the techniques for the dehydration of various flowers/neglected plant species and the conversion of same into economically useful products.

Key Words: Dry Flowers, Floral craft, Drying techniques, Women Empowerment

Introduction

Dry flowers have been used since a long time ago for the aim of embellishment. There is also a huge market of dry flowers throughout the world. Dried plant materials equilibrate any home or office decor in all the arrangements. Dried flowers can be used for making variety of floral items for commercial exploitation. The industry projected annual turnover as of 2003 was more than 150 crores (Singh D.B. 2003)[1]. Potpourris are the major segment of dry flower industry valued at Rs 55 crores in India alone (Murugan P.A et al., 2007)[2].

The export market of flowers in India is composed of 71% of dry flowers exported mainly to U.S.A, Japan, Australlia, Europe and Russia (DE et al., 2016)[3] Exporting companies at Kolkata in West Bengal, Tuticorin in Tamil Nadu, Mumbai in Maharashtra and Hyderabad in Andhra Pradesh are earning 10-15 times higher returns than domestic markets (Verma et al., 2012)[4]. Dry flower industry is a promising business in India since past four decades and was initially introduced by British in Calcutta due to its proximity to north east and eastern regions where exotic and various plants were easily accessible (Bhattacharjee and Dee, 2003)[5].

The market of dry flowers is growing very fast across the globe as the people has become more eco-conscious and choose eco-friendly and biodegradable substitute to fresh flowers (Datta and Roy, 2011)[6]. Various aesthetic products such as greeting cards, segments, wall hangings, landscapes, calendars, potpourris etc. can be easily made by using these dried flowers or foliages (Bhutani, 1990)[7]. The dry flower industry is labour dependent and could empower thousands of unemployed men and women. Thus there are huge possibilities to establish the dry flower industry and to provide employment especially to physically handicapped, house wives and to rural women.

Materials and Methods

Dehydration of flowers is a technique by which flowers can be preserved for longer periods, or the method of removal of moisture from the selected flowers and foliages, in present study dehydration of different flowers and other plant parts were done by various dehydration methods such as by Press drying and Embedding drying.

Techniques

Press Drying.

the most common method for the preservation of flowers and foliages is to put them under pressure by keeping the material in blotting paper, exaggerated imbrications of plant parts and unnecessarily folding of leaves should be avoided, the pressure can be applied by various ways such as with the help of Plant Press, The Plant Press is an equipment which is particularly designed for the botanists to flatten the plant samples, it is composed of two strong boards the outer and inner board provided with straps or screws that can be tightened around them to exert pressure, besides this Press drying can be done by keeping the blotting paper containing plant material in between the heavy books. In present study press drying was successfully achieved by following both of the above mentioned methods as shown in (Fig.1&2). Most of the plant material dried in this way took 7 to 11 days to dry, the plant materials used in Press drying method were the Ferns, flowers of Hibiscus, Marigold, Ixora, Nettleleaf, velvetberry, Chrysanthemum, Aster, Pentas, Bougainvillea, Plumeria rubra, Melia, Ceasalpenia, Grasses and foliages of many other plants

Embedding Drying

It is the method of dehydration of flowers by which the plant material is embedded in some desiccant viz, silica gel, borax and sand, for the dehydration of flowers by embedding drying plastic containers were used in a well-ventilated room, the plastic containers were poured with a two inch layer of a desiccant and the selected material was gently pushed into the medium and was covered all around with a desiccant without disturbing the shape of the flowers. The plant material used in embedding drying were the Gerbera flowers, Bougainvillea, Chrysanthemum, Dahlia, Zinnia, Roses and Marigold. After embedding the flowers with desiccants the containers were kept at optimum temperature

Hot air oven drying

Hot air oven drying is one of the best and quick method for the dehydration of flowers and takes less time 20-25 minutes for drying or some times more than that depending upon the flowers, in this method the plant material was kept at a low temperature for a specific period of time and then if needed the temperature was gradually increased, Temperature is one of the main factor for the dehydration of flowers and other plant parts as it maintains the qualitative parameter of the flowers, plant material used in present study were the Aster, Roses both medium and large sized, Marigold, Gladiolus, Chrysanthemum and Zinnia.

Results and Discussions

The duration required by the plant materials to dry in Press drying of some plants were the Ferns (10 days), flowers of Hibiscus (4 days), Marigold (8 days,) Ixora (10 days), Nettleleaf velvetberry (5 days) Chrysanthemum and Aster (7 days), Pentas (6 days), Bougainvillea (7 days), Plumeria rubra (7 days) Melia (8 days) Ceasalpenia (11 days) Grasses (4 days).(Lourdusamy et al 2001)[8] described press drying method as the easiest method of preserving flowers like Chrysanthemum, Candytuft, Roses, Euphorbia etc. Various dessicants such as sand, borax, silica gel can be used in drying of various flowers. Sand is comparatively cheaper than other desiccants but takes more time in dehydration. Silica gel is an ideal desiccant in dehydration of delicate flowers like Roses, Dahlia and Carnations etc (Prasad et al 1997)[9], silica gel is the best medium for getting excellent dried flowers that retain color and shape (Champoux 1999)[10]. While observing the effectiveness in drying of flowers by various desiccants silica gel was found to be expensive but the same can be reused (Sandhu 2002)[11] described and recommended silica gel embedding as the most appropriate method for proper color retention of Helichrysum. The optimum time found for the dehydration of selected flowers employing silica gel was 1-2 weeks.

All the selected flowers showed variation in duration for drying in hot air oven drying, it was found that at 45-50^{0}C Aster took 3 days to dry, Roses at 50-55^{0}C took 4 days to dry Marigold at 45-50^{0}C took 3 days to dry were as Gladiolus Chrysanthemum and Zinnia at 40-45^{0}C took 4 days to dry. At higher temperature, as described by (Mayak and Halevy1980)[12] the rate of transpiration is much higher, with increase in temperature, diffusion pressure deficit of air increases which stimulates diffusion of internal moisture surface and further increase its vaporization rate, thus leading to high moisture loss at higher temperature.

Utilization of Dried Flowers and Floral Craft

The drying techniques results in the preservation of flowers and foliages and the material can be can be successfully used in preparation of various floral decorations and different craft items viz greetings cards, wall hangings, photo frames, bouquets, decorative pots, book coverings, potpourris, flower baskets and various other economically useful creations as shown in Figures 3-8

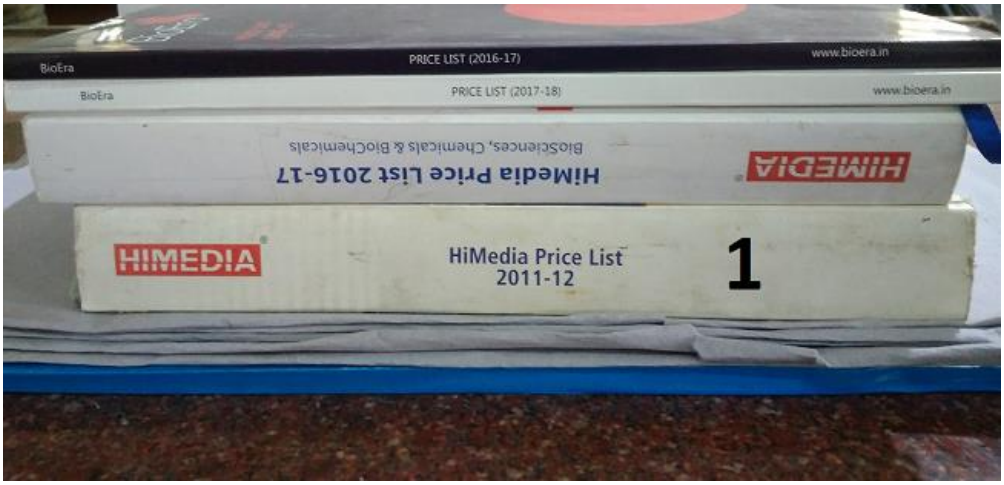
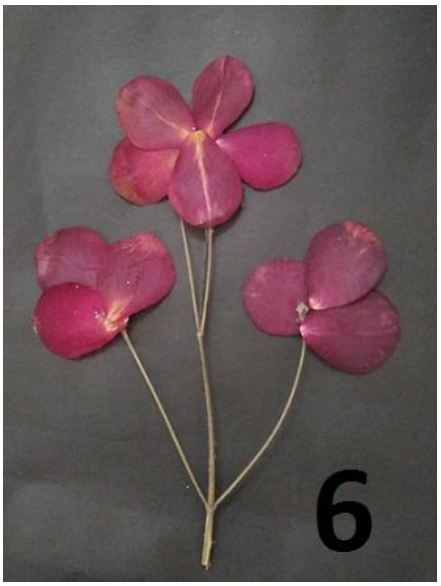


Fig.1.Press drying by keeping the blotting paper containing plant material between heavy books.
Fig.2. Press drying by Plant Press.



Figures 3-8. Economically useful products created from dry flower technology
Fig.3 & 8 Dried Roses. Fig.4. Dried flowers photo frame. Fig.4. Nosegays. Fig.6 & 7.Greeting cards

Conclusion

The present technology has the potential to employ thousands of people especially to housewives and rural women's as limitless aesthetic and decorative products can be created using dry flower technology, it can start up with a small scale industry which can be run by women's from their homes. Women's can work together and can act outstandingly to establish new markets. There is a need to create sufficient awareness about the potential of this technology by workshops, exhibitions and seminars etc

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