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Review on Dry Flower Arrangement and it's Different Techniques

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A B S T R A C T

Dry flowers relate to dried or dehydrated flowers or plant part or botanicals (roots, leaves, stem, bark, or whole plant) that can be used for ornamental purposes. Dried flowers are also known as everlasting flowers or dehydrated flowers. Since flowers and herbage consists of farther water, dehydration is necessary for getting dry flowers. Dehydration helps to maintain the original color and shape of flowers for long- term use with little care. The most area in floriculture is the dry flower sedulity. Dried flowers and shops have been exported for the last 40 years times and moment; India is one of the fostering countries in the field. Prospects of the dry flower sedulity are anticipated to contribute a lot to the country's economy in comparison to the fresh cut flowers and other live shops. Dry flowers and plant paraphernalia have tremendous eventuality as backups for fresh flowers and herbage for interior decoration as well as for a variety of other aesthetic and marketable uses. In this review the erratic information and data on drying of named flowers on named drying styles are being collected which would be useful for further studies.

Introduction

Flowers are an integral part of Indian culture. Flowers have been used for immolation and ornamental purposes each over the country since ancient times. Dried flowers are everlasting flowers which are made from suitable factory accoutrements by drying. Dried flowers are the important products of present-day floriculture due to their long continuing quality, time round vacuity, easy running, low transportation costs, eco-friendly and suitable for posterior flower products potpourri, a member of dried flower is used to give spices.

Fresh flowers, though relatively alluring, are veritably precious and short lived as well as available only during a particular season. Dried flower products on the other hand are long lasting and retain their aesthetic value irrespective of the season (Malcolm, 1994). The art of flower drying is

a veritably age-old practice. Before dried flowers were in practice in the form of herbarium made by botanists for the purpose of identification of colorful species (Prasad *et al.,* 1997). Though drying of flowers was well known indeed in the history but for the first time the flowers were dried commercially in Germany (Jean and Lesley, 1982). Dried and saved cosmetic products offer a wide range of rates like novelty, life, aesthetic parcels, inflexibility, and time round vacuity (Joyce, 1998). Dried cosmetic factory corridors are less precious and are sought for their everlasting and seductive appearance. Drying of flowers and leaf age by colorful styles like air drying, sun drying, roaster and fryer roaster drying, snap drying and bedded drying can be used for making ornamental flowery crafts particulars like cards, flowery parts, wall declensions, geographies, time tables, potpourris etc. for colorful purposes.

Conserving plant accoutrements in a dried form is not a new idea; it has been considered an art hundreds of times. Ambrosial dried sauces were boxed with mummified bodies in Egyptian conglomerations. During the Middle Periods, monks dried flowers, leafage, and sauces for use in ornamental motifs or for making colorings to color their hand published books. Dried flower arrangements have been popular in Europe for centuries, and as beforehand as 1700, social Americans used dried flowers to cheer their homes, especially during the dark downtime months.

Dried flowers enthrall a major knob of the total floriculture. Dry flower product is labour ferocious, carries more tone- employment and job openings for a vast number of workers and aids in the development of attachment diligence. The Indian import hand basket comprises of 71 percent of dry flowers which are exported to USA, Europe, Japan, Australia, far East and Russia. Dry flowers constitute further than two-thirds of the total floriculture exports. The demand for cosmetic flowers is ever adding to the transnational and domestic demand with the enhancement in standard of living and quality of life. Flowers are pleasurable creations of nature considered as a symbol of love, beauty, and a paradigm of life because of their in numerous colors. Government of India has linked floriculture as a daylight assiduity and accorded it 100 import-acquainted status. Owing to steady increase in demand of flower floriculture has come one of the important Marketable trades in Agriculture. The fresh flowers, though exquisite in their beauty, are precious, short lived, sensitive to temperature and are available only during a particular season. Their newness and beauty are lost due to colorful biochemical changes and microbial conditioning, therefore, can be retained only for many days indeed by using the stylish ways of post-harvest operation. The shelf life of flowers could be dragged only to an extent of 40 indeed when the stylish flower preservatives or chemicals were used. So, dried flowers come as a smart volition to fresh flowers and are looked upon as an economically significant assiduity.

Advantages

Dry flowers are long- lasting and extensively available each over the time without important caring.

Dry Products are eco-friendly, biodegradable and do not depend on rainfall conditions.

Raw Accoutrements are fluently available and time-round supplied from a flower theater or timber area.

It requires low- cost ministry as well as lower expert knowledge to operate.

It is a labor-ferocious process that provides job openings for poor people and tone- employment to huge figures of workers including homemakers, physically challenged person and pastoral people.

Dry flowers and leafage are cheaper than fresh flowers and used to embellish the home and office innards.

Sot flowers and their products are used for the decoration of bouquets, different flowery

arrangements, and colorful flowery crafts similar as chatting cards, wall declensions, time tables, candles, flowery jewelry, ornamental mirroring, glass jar arrangements etc. Thus, dry flowers score over the cut flowers that frequently embellish homes and services because of their capability to remain ornamental for longer ages surely with lower care.

Selection of Flowers

Selection of suitable crops, flowers or shops for drying purposes is veritably important for the success of the assiduity. Some of the flowers lose their cosmetic value after drying. Some exemplifications of flowers that work stylish for drying include:

Sturdy blossoms: Small and sturdy blossoms like hydrangeas, amaranth, lavender, baby's breath, celosia, and straw flower do well with air-drying because they've a lower water content than other flowers and hold up well during the long drying process. Flowers with multiple layers large, thick flowers or flowers with open-faced petals like roses, tulips, zinnias, and chrysanthemums can repel the heat of the roaster or fryer.

Smaller or flatter flowers

Small or flat types of flowers with a single sub caste of petals are the stylish bones to press. Some flowers that can be pressed include daisies, pansies, lavender shoots, and violas

Larger flowers

Big blooms or further delicate flowers should be kept in a sealed vessel of humidity- removing substances. Lilacs, pansies, dahlias, peonies, and daisies hold up well when dried in a desiccant.

Stage of Harvesting

The stage of harvesting for different flowers varies according to the species and the form of flower asked (Paul and Shylla, 2002). Still, flowers are gathered just before they are completely open, and the color has not faded (Padmavathamma, 1999). Flowers gathered at completely open stage took less time for drying than those gathered at tight club and half open stage of helichrysum of flowers redounded into petal slipping during running (Singh, 2004). Drying below 8 per cent humidity content showed slipping effect which might be attributed to inordinate loss in humidity, that might have redounded into weakened adhesion and cohesion forces in flower towel and might have caused softening of the middle lamina leading to abscission. Paparozzi and McCallister (1988) observed rapid-fire towel desiccation in fryer dried statice flowers. Also, Wilkins and Desborough (1986) observed vulnerability of flowers to breakage in vacuum dried flowers.

Techniques of flower drying

The dried or dehydrated flowers or factory corridor are natural, comparatively affordable and have everlasting value with time around vacuity without disturbing their color and form. Several styles are rehearsed for drying or dehumidification of different factory corridors.

Air Drying

Air drying flowers is one of the easiest styles of preservation and gives shops a crisp look that lasts for times. It is the most common system of drying also appertained to as "Upside Down" or "Hang and Dry" system of drying. Air drying flowers make a fabulous decoration by themselves, but when they are dry, they make further beautiful and fantastic flower arrangements. Air drying requires a warm clean dark and well- voiced area with low moisture. No special outfit is demanded. The stems of flowers and their leafage are tied and hung upside down. The apartments should be warm, dark, and dry with good air rotation. Still, it is one of the longest drying styles. It takes three to four weeks for the flowers to dry fully. Air drying in shade is applicable during dry season and summer particularly for flowers similar as Acroclinum, Helichrysum and Limonium.

Other crisp- textured flowers like Anaphilis, Delphinium, Oregano, Rumex and Holmskioldia, etc. can also be dried by air sorting. Fleshier the flowers or leafage, the further time it will take to dry. The stage of crop is also important for getting superior quality of dry flower in this system. Blue and unheroic colored flowers retained their color after air drying but pink color fades down.

Press Drying

One of the most popular styles for drying flowers is to put them under pressure, to remove the humidity out while leaving the color of the flowers and structure complete. Before it was used by the herbalists or botanists for the medication of herbarium. There are several ways to apply pressure to flowers. The easiest system is placing them in heavy books and allowing them to dry. The drying time can be reduced if the waste is kept in roaster at an applicable temperature. The material after press drying can be used for composing floral craft particulars like; chatting cards, flowery designs and other art creations which maybe framed for wall leg-ups. Time demand for press drying of flowers vary depending upon the flower. Time needed for press drying of different flower crops and they concluded that rose, carnation and helichrysum needed 120,132 and 72h, independently for press drying. For quicker drying, an herbarium press should be kept in warm air roaster at 450C for 12- 24 hours depending upon the humidity in the flowers and leafage. Factory accoutrements suitable for pressing are Candytuft, Chrysanthemum, Pansy, Rose, Daisy, Phlox, Statice, Zinnia, Ferns, Silver Oak, Blue Gulmohar, Thuja, Cockscomb etc.

Embedded Drying

Embedded drying is useful for delicate flowers with high humidity content that shatter or monstrous when air dried. This system of drying is preferred over air or roaster drying as it reduces the problem of petal loss. In bedded drying, the water content of the flower is fully absorbed by the girding desiccant material. The desiccants used are silica gel, borax, sludge mess etc., which remove humidity from the flowers more fleetly than air- drying besides retaining the flowers in their natural form. Fine whites and found on the shore (river sand) can be used for embedding because of its easy running and vacuity, is a stylish desiccant forgetting excellent quality dry flowers that retain color and shape. Since it does not beget dulling loss or fineness to flower petals indeed if bedded for a long time. It is grainy in shape and called a gel because it is a xerogel of silicic acid. Silica gel (60-120 mesh) is a stylish spongy for removing humidity from flowers. Rose, Aster, Carnation, Marigold, Dahlia etc. are suitable for drying through bedding fashion.

Microwave Drying

Microwave drying is speedy and straightforward. The standard behind microwave drying is freeing dampness by disturbing water particles in the natural substances with the assistance of electronically created microwaves. It requires a couple of moments and gives dried blossoms that look fresher and more brilliant than acquired by different techniques. Blossoms like lilies, roses, violets, zinnias, and dahlias function admirably with this interaction. White *et al.,* (2002) detailed that microwave dried blossoms looked new and brighter than got by some other strategy. Aravinda and Jayanthi (2004) normalized the drying methods like microwave drying, broiler drying, and sun drying for chrysanthemum (Button type neighborhood) blossoms and observed that microwave drying with silica gel gave the best outcomes for holding state of blossoms while stove drying with white sand was tracked down the best for variety and agreeableness. Biswas and Dhua (2010) additionally concentrated on microwave drying of cut Carnation assortments viz., Kristina and Cano and thought that it is compelling.

Glycerin Drying

Elaborate plant parts are safeguarded by treatment with 'humectants'. 'Humectants' are hygroscopic synthetic substances, which help to keep up with the

gracefulness of dried plant material by drawing in water fumes from the encompassing air. Along these lines, the safeguarded plant material is less weak than dried material, making it less inclined to breaking and mechanical harm. The distinction in conservation and different techniques for drying is that the treated parts are really protected and not dried. Various humectants are utilized for saving plant parts, for example, glycerin, polyethylene glycol and so on. However, the most regularly utilized is glycerin. 1 piece of glycerin blended in with 2 pieces of heated water is an ideal combination for lack of hydration. The term of treatment fluctuates from 2 to about a month and a half relying on the surface and the size of the leaves and branches. Plant materials are not permitted to remain in that frame of mind for a longer time as it brings about glycerin dying. Plant materials appropriate for glycerinating are Anthurium, Aspidistra, Lemon, Eucalyptus and soon.

Freeze Drying

Freeze drying chips away at the standard of bringing down the temperature of material and afterward utilizing a vacuum to separate all the dampness from it. It is a best-in-class procedure and the best technique for bloom safe guarding today. It is an inventive vacuum process that requires around a month relying upon the bloom. The water fume is gathered in a different chamber and the dried blossoms are permitted to gradually warm to room temperature. Sohn *et al.,* (2003) concentrated on the impact of freeze drying on Rosa hybrid

CVS Tineke, Golden Gate, Saphir, Roulette, Rote Rose for 14 days (about 2 weeks) on their shape and variety.

Future Perspectives

Parchedness is a significant post gather innovation for upgrading the elaborate keeping nature of blossoms. India has an assorted agroclimatic condition and rich greenery assets and offers a shifted scope of significant worth added items which incorporate the dried ornamentals. With such incredible possibilities, investigation of appropriate innovation is required. For helping the horticulture business and to procure more unfamiliar trade, more exploration on lack of hydration of blossom ought to be embraced and normalized for business abuse. Dry blossoms are hygroscopic and will quite often reabsorb dampness from air. In this way, there is a need to examine and work out some appropriate synthetic treatment on dried blossoms to improve the solidifying of dried ornamentals and to stay away from reabsorption of dampness. Dry blossoms are less adaptable and should be maneuvered carefully. Along these lines, appropriate bundling innovation for dependable utilization of dry bloom ought to be assessed. Subsequently, a total bundle to assess petal color level and blossom tissue honesty, the aftercare treatment with bundling and prepared to utilize articles are the regions to be explored and normalized.

Dried blossoms and plant parts are eco-accommodating, enduring, biodegradable and effectively accessible and, in this manner, have an incredible potential in gardening industry all through the world particularly in the bumpy locales of India. It is assessed that around 80% of bloom species can be dried and saved effectively. Inordinate variety of wild plant material accessible broadly additionally fortify the foundation of dry blossom industry. Dry blossom industry can give work to great many individuals particularly to stay-at-home spouses and provincial ladies' as boundless tasteful and beautifying items can be made utilizing dry bloom innovation. Thus, there is a quick need to reinforce its market, monetary help through government organizations and preparing for business advancement and mindfulness about the capability of this innovation by studios, presentations, and classes and soon.

Case study

In experiment of carnation embedded drying was done during march 2022 in laboratory of Department of Horticulture School of Agriculture

lovely professional university Punjab. In that of drying in flowers silica gel was used for drying, drying of flowers after three weeks are veritably well dried having exact size, shape and color too. So, the result of this system for carnation is veritably good and gives stylish results in drying system

In experiment of corn flower air drying was done during april 2022 in laboratory of Department of Horticulture, School of Agriculture at lovely professional university Punjab. Flower was bound by thread and hanging on rod. The flowers are completely dried after ten days without any moisture content left behind. The flowers size changed and are a bit shrinked and also the petals started to drop. Air drying is an easy, common and the cheapest method to dry the flowers and the outcome of the dried flowers is almost similar to the other methods.

In experiment of hibiscus press drying was done during april 2022 in laboratory of Department of Horticulture, School of Agriculture at lovely professional university Punjab. In press drying method hibiscus flower was pressed in book drying of flower it take time of three weeks for drying. Weeks the flowers were completely dried off. So, the result was that the press drying method is a very good and easy option in order to dry hibiscus flowers.

Selected Flower for the Selected Drying Methods

For Embedded Drying method

Carnation

Scientific name: *Dianthus caryophyllus*

Family: *Caryophyllaceae*

Common name: carnation, clove pink, Divine flower

Life cycle: Perennial

Width/Spread: 3 feet

Flowering season: Oct to March
Foliage: Long narrow, needle-like, grey-green, evergreen in many areas

Plant description

Dianthus carpophyllus is a species of the rubric Dianthus. It's a native from the Mediterranean region, but its exact range is unknown. It's an herbaceous imperishable factory growing upto 31 elevation. The flowers are produced independently or together in a group and are sweetly scented.

Carnations are grown in dozens of colors and are particularly well- known for their capability to last with lower water for long ages of time without wilting or drying out. Some of the kinds can last in water up to three weeks. Flower: The original natural flower color is bright pinkish-purple and have 3 – 5 cm periphery, and sweetly scented; flowers are produced independently or over to five together in acyme.

Methods

Select new, solid blossoms.

Eliminate the undesirable parts like leaves, stem, branches, and thistles, & so forth.
Take a hermetically sealed holder and load up with silica gel up to 2-3 inches.

Blossoms are inserted into the silica gel and afterward from the upper side of bloom completely covered with silica gel.

Put the holder in obscurity, dry spots.

Following 3-5 days the blossoms are completely dried.

Results

For this trial, took two kinds of carnation i.e., Ambrose and Loris. And for drying purposes I took silica gel for bedded drying which is one of the

effective and fastest styles of drying flowers.

In this system flowers are bedded with silica gel and put in airtight vessel for drying. After drying flowers are veritably well dried having exact size, shape and color too. So, the result of this system for carnation is veritably good and gives stylish results in drying system.

Fig.1

Fig.2



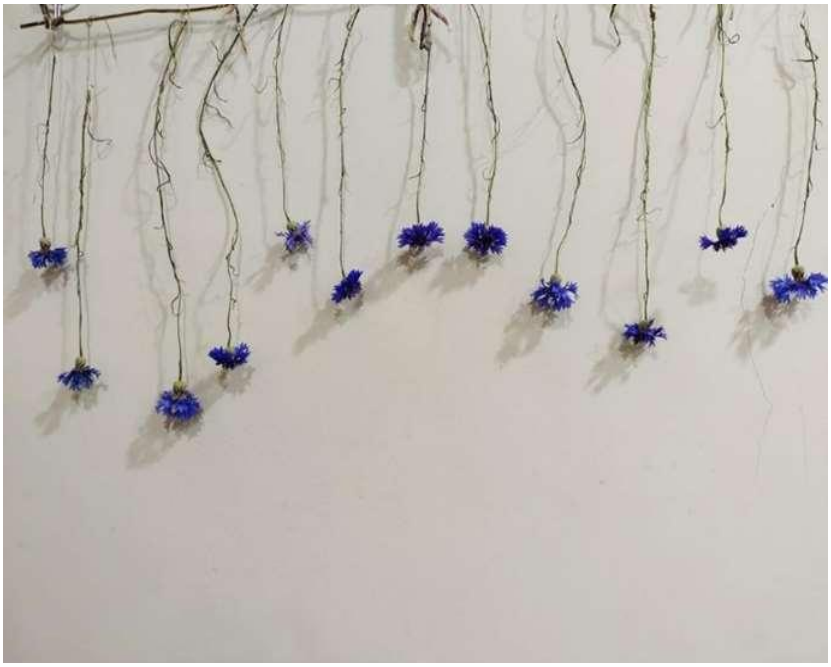
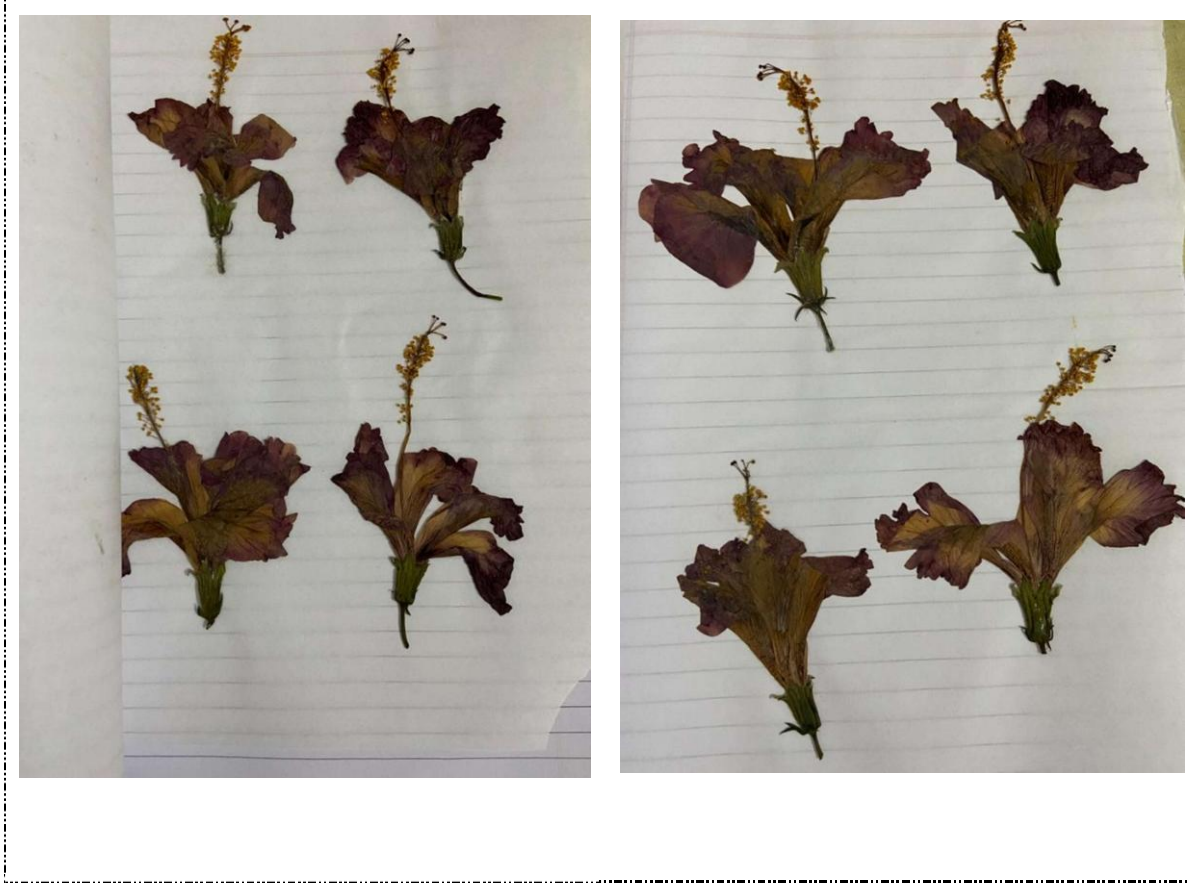


Fig.3



For Air Drying method

Corn Flower

Scientific name: *Centaurea cyanus*

Family: *Asteraceae*

Common name: Bachelor's button, Corn flower
Life Cycle: Annual

Flowering season: late spring to early summer

Spacing: The spacing of this plant can be around 7" (20cm) each way (minimum) and Rows, 7" (20cm) with 7" (20cm) row gap (minimum) for single plants.

Foliage: long narrow gray- green leaves.

Plant Description

It is native to Europe; these are widely cultivated in North America as garden plants and have naturalized as an invasive species in some areas outside of their native range. They were once frequent weeds in fields of corn and other grains; hence they are commonly known as corn flower. Corn flower is suitable for good garden soils, these are long day plants. Young corn flower seedlings can tolerate freezing temperatures, so the seeds can be planted in early spring, or in the fall where winters are mild. Cornflowers have an upright posture that helps them fit in tight spaces. Intersperse throughout the garden, as corn flower nectar is unusually sweet, and thus a preferred food

source for many beneficial insects. Corn flowers make good cut flowers and can be used as a fresh or dried flower in bouquets.

Flower: The plants grow around 30–90 cm (1–3 feet) tall. They produce papery flower heads surrounded by bracts. The flower heads have blue, pink, or white ray flowers that are attractive to butterflies, they can readily reseed in suitable environments.

Methods

Collect the source, where we can find the corn flower.

Visit the field to collect the corn flower, take a pair of scissors and cut the healthy, fresh and disease-free flowers at the base with a long stem.

Put the flowers in a plastic bag and get it to the place where we need to dry the flowers.

Clean the flowers such as removing the unnecessary parts, peeling or stripping of leaves from the stem

Then take the thread and tie it at the end of flowers.

Hang them and let it dry in the room conditions for 10 days.

Results

Corn flower is chosen for the Air-drying method. After 10 days of drying in room conditions the flowers remained same with no change in color. The flowers are completely dried without any moisture content left behind.

The flowers size changed and are a bit shrinked and also the petals started to drop. Air drying is an easy, common and the cheapest method to dry the flowers and the outcome of the dried flowers is almost similar to the other methods.

For Press Drying method

Hibiscus

Scientific name: *Hibiscus acetosella*

Common name: Hibiscus

Life Cycle: Perennial

Width/Spread: Up to 3 feet

Flowering Season: mid to late summer

Foliage: Hibiscus leaves are oval, simple, and range in length from 8 to 10.5 cm. They're arranged in a spiral around a lengthy stem.

The bisexual flowers are enormous and beautiful, growing upto 25 cm diameter, stalked, and springing singly from the upper leaf axils. The five unattached petals at the base can be white, yellow or red.

Plant Description

Hibiscus is a flowering plant genus in the Malvaceae family of Mallows. The genus has several hundred species that are found in warm temperate, subtropical, and tropical climates around the world.

Member species are notable for their enormous, bright flowers, and are frequently referred to as "hibiscus" or "rosemallow," respectively. Hardy hibiscus, rose of Sharon, and tropical hibiscus are some of its other names.

The genus comprises herbaceous plants that are both annual and perennial, as well as woody shrubs and small trees.

Flower - The flowers are large, conspicuous, trumpet-shaped, with five or more petals, color from white to pink, red, blue, orange, peach, yellow or purple, and from 4–18 cm broad.

Methods

Pick fresh hibiscus flowers.

Take a piece of parchment paper.

In a book line, up the piece of parchment paper as shown in the picture.

Place your picked hibiscus flower in such a way that they don't touch each other.

Carefully close the book and place a weighted object on it and wait for 3 weeks.

Results

For this experiment I took red colored hibiscus flowers, and used press drying method on them.

The flowers were collected from a nursery. For the press drying of these hibiscus flowers I used a book and a piece of parchment paper.

The parchment paper was lined inside the book and the flowers were carefully placed on the parchment paper.

Then the book was closed properly and a weighted object was kept on the book to press the flowers inside in order to dry them. After 3 weeks the flowers were completely dried off. So, the result was that the press drying method is a very good and easy option in order to dry hibiscus flowers

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