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Methods of Preserving Flowers

Ronald C. Smith
Horticulturist and Turfgrass Specialist

Barb Laschkewitsch
Horticulturist

NDSU
Extension Service
North Dakota State University
Fargo, North Dakota 58105

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Preserving flowers, an old art practiced during colonial times, is becoming more and more popular with an ever-increasing number of flower-conscious Americans. Drying flowers is a rewarding experience because it is easy to do, the flowers usually dry
remarkably well, and they last for many years.
Flowers can be preserved in different ways: hanging and pressing, with glycerin, or using various drying agents such as sand, homemade mixtures, or silica gel.

Gathering Plant Material

The best time to harvest plant material is late morning, after the dew has dried but before the heat of the afternoon. Excess moisture can cause spotting on plant material and may cause mold to grow during the preserving process. Plant stems should be placed into water immediately after cutting. Fully hydrated plant material will preserve the best. Pick only the highest quality material; blemishes will become magnified after preservation. Avoid picking over-mature flowers; they tend to shatter once dried. Harvest more material than you anticipate needing as losses from shattering, shrinkage and blemishes will occur. If picking from the wild, remember to get permission from land owners and never remove plant material from state or federal areas.

Methods

Hanging

Air drying or hanging is the easiest and best method for preserving flowers. As a general rule, flowers need only to have the leaves removed and to be hung upside down in a warm, dry, dark place until the moisture content is greatly reduced. An attic, closet, or pantry is often an ideal place; avoid basements, porches, or garages, where dampness may ruin specimens.

Divide the flowers into small bunches to avoid crowding or crushing. The stems of the flowers can be tied together with twine, wire, pipe cleaners, rubber bands, or anything that will hold them securely yet not break the stems. Hang the flowers from a nail driven into an attic rafter, along the wall of a closet, from coat hangers suspended from a crossbar, from a clothesline or from a self-supporting drying rack.

Air drying flowers may take from one to two weeks or more depending on the moisture content of the cut stems and relative humidity. Some flowers should be picked for air drying in the bud stage, or partially opened, as they will continue to open while drying. Others must be picked when they are fully mature.

Suggested flowers to air dry include: strawflowers, goldenrod, hydrangeas, celosia (crested and plumed types), Queen Anne's lace, statice, baby's breath, millet, globe amaranth, salvia, *Xeranthemum* – and many of the "everlastings."

Glycerin

This chemical replaces the water in the plant material, making the preserved plant supple and long-lasting. To use this method, the plant material needs to be gathered in a fully hydrated (non-wilted) state. Use two parts of water to one part of glycerin, making sure the water is luke warm for better mixing and faster absorption. Ordinary car antifreeze will work. If the autumn colors are showing, it may be too late to preserve them in glycerin.

Where leaves only are used, they should be submerged completely in the glycerin-water solution. Where leaves attached to stems are used, then only the stems are immersed into the solution. The time required for completing the preservation process varies, but expect two to perhaps three weeks before the glycerin solution reaches the leaf tips.

If the samples appear to wilt after removal from the solution, then hang them upside down so the glycerin will migrate to leaf and branch tips. For beginners who are looking for assured first-time satisfaction, *Mollucella laevis* (Bells-of-Ireland) easily absorbs the glycerin solution and shows a wide color variation. Other plant materials suitable for glycerin infusion include woody species such as magnolia, oak, and eucalyptus.

Pressing

Pressing is a very easy way to preserve flowers although the relief is lost and the flowers are flat. Unglazed paper, such as newsprint or an old telephone book, is best for pressing. Spread the flowers so they do not overlap between several thicknesses of news-paper. Additional layers of paper and flowers can be built up and then covered with a board or piece of cardboard before pressing down with a heavy object. The time required for drying, depending on the flower size or tissue content, can be anywhere from two to four weeks.

The process can be speeded by placing a stack of papers and flowers over a light bulb. Storing pressed flowers is not a problem because they usually are not removed until they are used.

Flowers to press include: aster, bleeding heart, buttercup, chrysanthemum, columbine, cosmos, dahlia, dogwood, English daisy, geranium, larkspur, lily-of-the-valley, marigold, pansy, poppy, rose, sweet pea, violet, and zinnia.

Drying Agents

Sand Drying

Sand must be very fine, clean, dry, and preferably salt free. Sifting is recommended to remove coarse grains and foreign particles. Rinsing the sand in water several times to remove any soil is also recommended. Damp sand can be dried in an oven by placing in shallow pans and baking at 250 degrees for 20 to 30 minutes. Be sure to use only flowers in their prime and process them quickly to prevent wilting.

To dry with sand, place an inch or two of sand in a container; scoop away a small amount of sand to form a depression on the surface; place the flower head upright in this depression and press the sand in and around the outside of the flower to support it. Next, scoop a little sand into your hand and allow it to trickle in a fine stream around each petal. Start with the outer petals and work inward row by row, allowing the sand to build up equally on all sides of each petal so its position and shape are not altered. Flowers dried with sand are fragile so be very careful when removing them from the sand. Store in a strong carton to protect the petals from breaking.

Homemade Agents

Various mixtures can be made with ingredients found in most kitchens. For example, use equal proportions of powdered pumice and yellow corn meal or equal proportions of borax and yellow corn meal. To each quart of either of the mixtures, add 3 tablespoons of salt (non-iodized). Other grain cereals such as Wheatena or Cream of Wheat can be substituted for corn meal. These mixtures are usually heavier than sand or silica gel, but they work well. Apply the mixture like the sand as described above but in an open container placed in a warm, dry location for about two weeks.

Silica Gel

Silica gel is a granular compound that can be found in most garden centers, nurseries, florist, or hobby shops. It absorbs moisture from flowers rapidly, thus preserving flower color better than other drying methods. Most flowers will dry in 36 to 48 hours.

Use silica gel in an airtight container or it will absorb moisture from the air, not from the flower tissues. It may contain color coded salts that appear blue when dry and pink when moist. You can redry the silica gel in a warm oven (not in a microwave) and reuse it for other flowers later. Winifrede Morrison's book *Drying & Preserving Flowers* gives details on the use of silica gel. Flowers that dry well in either borax or silica gel include: rose, aster, carnation, marigold, dahlia, larkspur, geranium, zinnia, chrysanthemum and delphinium.

One word of caution when using the homemade agents or silica gel: the flowers will sometimes reabsorb moisture and wilt. For best success with flowers dried in an agent, display your flowers in a closed container to keep out dust and high humidity.

Microwave Drying

Drying flowers in a microwave oven is becoming popular with some homeowners. Since flowers vary in moisture content, texture and density, care should be taken to use the same sized flowers from one species at a time.

Since research data is unavailable and experience is limited at this time, homeowners are advised to use caution in microwave drying techniques.

This is a silica gel flower drying method. It has been found that many flowers held almost true to life color and form using this process.

Brightly colored flowers dry best. Flowers such as lilies, roses, violets, zinnias, and dahlias work well with this process.

Needed are silica gel, a container safe for the microwave, and **fresh** flowers. Spent flowers will look spent, and fall apart!

The following is part of a chart from the cookbook *Introduction to Touchmatic Cooking with the Amana Radarange*:

Flower*	Heating Time**	Minimum Amount of Standing Time
Carnation	2½ - 3 min.	This is the area where I depart from my cookbook's instructions.
Daffodil	1½ - 2 min.	
Pansy –	1st drying 2nd drying	45 sec. 1½ min.
Rose	1½ min.	
Sunflower	1¾ min.	
Violet	1½ - 2 min.	
Zinnia	2 - 2½ min.	

* If the flower you are drying is not on the list, select one that is near to it in size and form.

** Heating time is on full power.

Method

1. Partially fill a container with silica gel, place flower in container stem side down. Slowly sift the silica gel around the flower until it is covered.

2. Place the container in the oven. Place 1 cup of water in the rear left corner of the Radarange. Heat on full power. Check the chart for time. Large flowers take longer heating times.

3. **Important!** After heating, the flower must stand in the silica gel until the silica gel is cool. This takes much longer than the instructions given in the cookbook. Not letting the flower stand long enough may be the reason many people experience failures. Don't try to remove any flower for two hours; generally from four to six hours is needed. If the flower is removed too soon it will be warm and limp, and will not be able to hold its form.

The following is a list of other flowers and times that are suggested:

Verbena (four flowers)	75 sec.
Miniature rose (three flowers)	70 sec.
Dahlia (3")	1¾ - 2 min.

Keep a notebook of each container of flowers you "cook." You will soon discover the best times for your favorite flowers, and you won't have to rediscover this next summer.

Your flowers should be sprayed with a clear matt finish to keep them from rehydrating.

References

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For more information on this and other topics, see: www.ag.ndsu.edu

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