

# Winter Storage of Geraniums and Tuberous Plants



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Geraniums and a number of tuberous flowering plants will not survive Indiana winter temperatures. However, they can be lifted from the garden and stored indoors, or, in the case of geraniums, carried over as actively growing plants indoors. Proper storage of the tubers, roots, corms, or plants, or proper culture of the plants as houseplants can considerably reduce cost for the following season.

## Geraniums

Unlike the other plants discussed below, geraniums form no resting structures (i.e. bulb, corm). Thus, they must be carried over winter as stem and leaf tissue which is either actively growing or dormant. This is so despite the recent development of geranium cultivars which “come true” from seed. Certain cultivars, notably most of those with double flowers or variegated foliage, still must be carried over the winter by one of the methods described in this publication.

Two of the methods rely on continued growth of the plants during the winter season. They require conditions typical of many houseplants. The third method holds the plants in a dormant condition and is thus more subject to failure due to inappropriate conditions. Whichever

harbor diseases, particularly viruses, which cause decline. Any signs of poor vigor point to unsuccessful winter storage.

A particularly insidious disease of note is geranium bacterial blight. It has recently become a serious problem. The disease is



noteworthy because plants may be infected but show no symptoms until environmental conditions are

correct. Thus, plants may be carried over that appear healthy but are actually infected with bacterial blight.

## Cuttings

The cutting method requires taking tip cuttings or slips before frost. Select the desired number of 3 to 4 inch shoot tips and strip off the lower leaves. Dip the cut end in a mixture of rooting hormone and Captan wettable powder.

Stick the cutting in a rooting medium of coarse sand or a mixture of coarse sand and sphagnum peat moss. A flower pot or wooden container which holds 3-4 inches or rooting medium and has drainage holes is sufficient.

To allow air movement and prevent the rapid spread of disease, separate the cuttings so they do not touch. Water the cuttings thoroughly.

Cover the container with a plastic bag and place in a north or east window out of direct sunlight until rooted, which should take 3-4 weeks. Apply a protective fungicide spray (Captan or Benomyl) prior to covering. It is better to keep the cuttings and rooting medium somewhat dry to decrease the chance of disease. If rot of



cuttings appears, drench rooting medium with Terraclor® plus Captan. Apply according to label directions.

After the cuttings have rooted, place each in a separate pot and set in a well-lighted spot, preferably a south window. For flowering, geraniums need at least 4 hours of direct sunlight every day. If you're not interested in flowering, less brightly lighted locations are satisfactory to maintain growth.

In the home, night temperature is usually higher than the 55-60°F which is best for geraniums. This results in spindly plants. Frequent pinching and liquid fertilization will help minimize spindliness.

### **Potted Plants**

Whole plants can be lifted from the garden, potted, and brought indoors. Cut each back to 1/3 the original height. Use pots 6-8 inches in diameter. After potting, water thoroughly, and begin monthly fertilization about 1 week later. Initially, place the plants in a well lite location to help them adapt to indoor conditions. They can then

be moved to a reduced light area as described for cuttings. Apply occasional protective fungicide sprays of Captan, zineb, or Benomyl according to label directions.

### **Dormant Plants (Hanging Method)**

Prior to frost, dig geraniums and carefully shake all the soil from the roots without damaging the roots. Hang the plants upside down in a cool dark place where the temperature is 45-50°F and the humidity is low. Cool, dry basements are ideal.

During winter, take the plants down monthly, soak the roots in water for 1-2 hours, and apply a protective fungicide spray of zineb or Benomyl. This helps to keep the roots from drying out and to prevent disease. Most of the leaves will dry and fall during the winter.

After frost danger in the spring, cut the plants back to about 1/3 of their original height and plant in the garden. Water and fertilize as for other bedding plants. If desired the plants can be potted up and started indoors earlier.

### **Cannas**

After the tops of cannas have been killed by frost, allow them to dry for several days. Then cut back the ops to 3-4 inches of stem and carefully lift the roosts with a fork or spade. Turn the clump roost over and allow to dry for a few hours.

Apply zineb according to label directions and store in a cool, moderately dry area where the temperature will not go over 50°F. Place on shelved or racks or hang in mesh bags so that air can circulate freely among the clumps. Do not allow the roots to freeze.

In the spring, each clump can be planted as

a full clump or divided. Be sure that there is a portion of the old stem base in each division since the new growth buds are in the old stem.

## Dahlias



The dahlia plant is ready to be dug when it is darkened by frost. Cut the top back to 4-5 inches, and lift gently with a fork or spade so as

not to injure the tuberous roots. Remove as much of the soil as possible without damaging the roots. Apply a protective fungicide spray of zineb or Benomyl, and allow the roots to dry in the air for several hours. Then store in a dry, cool, frost-proof area. If the air is very dry, the roots may shrivel. To avoid this, wrap the clumps in newspapers or pack them in barrels or boxes of peat moss, vermiculite, dry sawdust, or sand.

Commercial growers usually cut and divide the tubers soon after digging since the eyes or buds are easier to see in the fall. Each tuber must have at least one eye. Treat all cut ends with a fungicide (Mancozeb, zineb, or Benomyl) before storage.

Check the condition of the roots several times during the winter. Discard any which show signs of decay.

## Gladioli



Gladiolus corms should be dug after frost. Although some growers dig the corms of early flowering cultivars 6-8 weeks after

flowering, well before frost, this is not

necessary, It is, however, critical to allow all corms to mature as fully as possible prior to digging.

Dig the corms of healthy plants with a fork or spade so that the entire plant can easily be removed by grasping the top and pulling the plant out of the soil. Avoid bruising or injuring corms while digging and handling. Shake off all loose soil and discard damaged or diseased corms. Cut the top off 1-2 inches above the corm. Save the small cormels separately if you so desire. Place the corms on a piece of burlap or paper to dry in the sun for 1 or 2 days.

Gladiolus corms are often infected with various disease producing fungi which reduce stand, plant, and spike size. To avoid disease problems in storage, dust freshly dug, clean corms with thiram, dichlone, Captan, or a general purpose dust containing one or more fungicides and insecticides. Place dust (single aspirin tablet quantity for each quart of corms) and corms in a paper sack and shake vigorously to coat the corms uniformly.

After drying, sift out excess soil and place corms in wooden flats or trays. For best results, cure at a temperature of 80-85°F for 2-3 weeks. Avoid fluctuating temperatures, which cause moisture condensation on the corms and increase the chance of disease. When thoroughly cured, the old corm should be broken from the base of the new one and discarded. Two to three additional days at 80°F will hasten the formation of a corky layer at the scar, which delays or prevents the spread of disease.

For winter storage, place the corms in paper boxes, open paper bags, cloth bags, wooden trays with screen bottoms, or old

onion sacks. Stack or hang the containers so air can move among them. Store the corms at 35-40°F in low humidity. A cool basement is quite suitable. Do not allow corms to freeze.

### **Caladiums and Tuberous Begonias**

When the tops of caladiums and tuberous begonias are injured by the first fall frost, gently lift the plants and cut back the stem to the soil line. Leave the ball of roots and soil intact.

Place the soil and root masses in a dry, cool storage area, and allow the tubers to cure for 2-3 weeks. Then remove the balance of the soil, stalks, and roots, cut our any rotted spots, and spray or dust with Captan.

Store the tubers at 50°F in low humidity. Pack the tubers in dry peat, sand, sawdust, or vermiculite to prevent excessive moisture loss.



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