

Storing Tender Bulbs and Bulblike Structures

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Plants with tender bulbs, corms, tubers, and roots are valuable additions for the home gardener to use in the perennial border, cutting garden, or as bedding plants. Because of their tender nature these plants require special attention, but will be rewarding if given the special treatment they deserve and require. What is a tender bulb? The term "tender bulb" refers to plants which have fleshy storage structures (bulbs, corms, tubers, and roots) which are killed by the cold Minnesota winters if not brought indoors. Special protection, such as digging and bringing the fleshy storage structure into a warmer area for storage through the winter months is required.

Most tender materials should be dug after the foliage dries up or is killed by frost. An exception to this is *Hymenocallis* (ismene or Peruvian daffodil), which should be dug before frost damages the plant.

DIG CAREFULLY—For all structures such as dahlias, cannas, and other materials, it is important to loosen the roots gently with a fork or spade, digging several inches back from the base of the plants so that the roots are not cut off unnecessarily. With dahlias or other large plants, loosen the soil on all sides of the plant before lifting the clump of roots and soil. In all cases, avoid cutting, breaking, or "skinning" the fleshy structure. Diseases enter through cuts and bruises very readily and can cause rotting and losses in storage.

CLEANING—Some plants are best washed gently with a hose (e.g., dahlias). One technique that is used by some growers is to put hardware cloth (or a large mesh screen) across the top of a large garbage can and set the clump of dahlias or cannas on the hardware cloth or screen and wash the soil into the garbage can. This eliminates mess and the soil and water can be returned to the garden so it is not completely wasted. Another technique to reuse the soil is to place it on the compost pile. Gladiolus corms are best left unwashed and allowed to dry. After drying, the soil may be gently removed.

CURING—For most species listed, the curing period should be relatively short (e.g., dahlias, cannas, calla, caladium). This short-term curing or drying period should be 1 to 3 days, depending on temperature. It should be done in a room or area away from direct sunlight or drying winds. Long-term curing, for gladiolus, tigridia and oxalis, should be approximately 3 weeks. Then, in the case of gladiolus, the old corm and cormels should be removed. Drying and curing temperatures for such materials should be 60 - 70 degrees in a dry, well-ventilated area.

PEST MANAGEMENT—Before storing corms inspect for insects or diseases. Dust with an insecticide-fungicide mixture labeled for the specific plant.

STORING—It is important to remember to label stored plant material carefully. In the case of gladiolus and similar materials, this is easily handled by placing the corm in a small paper bag which has been properly labeled. Larger materials, like dahlias or canna, can be handled in several ways. One technique that works quite well is to write directly on the fleshy root with a permanent felt marking pen. If this is done on large clumps the cultivar name should be written on several roots rather than on just one, because in storage occasionally a root is broken off of the main clump. "Tree labels" of the wood-and-wire type work very well for labeling. In all cases cultivar name and/or other important identifying characteristics should be written on the label and also recorded in a notebook or in some other way. Many a prized or favorite plant has been lost because of poor labeling.

Figure 1. Storing gladiolus and similar corms.



1. Dry for 2-3 weeks after digging
2. Remove cormels
3. Remove old corm and discard

Remember to periodically check stored bulbs, tubers, and roots during the storage season. Remove any damaged or rotting material. In cases where tuberous roots like dahlias have some rot occurring, cut back until you reach clean white, fleshy tissue again. Remember that these structures are living plants and as such may need attention and care even during their dormant period.

NAME	STORAGE STRUCTURE	STORAGE TEMPERATURE	COMMENTS
<i>Achimenes</i> spp. hot water plant	rhizome	45 - 50° F.	Store cool and dry. Dig when leaves turn yellow and let dry after digging. Start indoors in April.
<i>Acidanthera</i> spp. peacock orchid	corm	35 - 40° F.	Dig 6 to 8 weeks after bloom. Store as gladiolus.
<i>Anemone coronari</i> windflower or florist's anemone	tuber	40 - 45° F.	Store like dahlias. Frequently sold as an autumn planted bulb, <i>but not winter hardy</i> in Minnesota.
<i>Begonia X tuberhybrida</i> tuberous begonia	tuberous root	50 - 55° F.	Dig when foliage turns yellow and cure with foliage. Remove foliage and store in sphagnum peat or vermiculite.
<i>Caladium bicolor</i> fancy leaved caladium	tuber	50 - 55° F.	Dig when foliage turns yellow or after frost has killed foliage. Cure with remaining foliage and store in sphagnum peat or vermiculite.
<i>Zantedeschia</i> spp. calla lily	rhizome	50 - 55° F.	Dig when foliage turns yellow or when foliage is damaged by frost. Store in sphagnum peat or vermiculite.
<i>Canna X generalis</i> canna	rhizome	40 - 50° F.	Dig after frost has damaged foliage and allow foliage to dry a few days before digging. Dig carefully to avoid damage which will cause rotting. Store in sphagnum peat, vermiculite, or sand.
<i>Crocsmia</i> hybrids	corm	35 - 40° F.	Treat as gladiolus.
<i>Dahlia</i> hybrids dahlia	tuberous root	40 - 50° F.	Dig after frost has damaged or killed foliage. Dig carefully to avoid damage. Cure in high humidity to avoid desiccation. Pack roots in vermiculite or sphagnum peat. Roots can be placed in plastic bags with small perforations or boxes and covered with vermiculite or peat.
<i>Freesia</i> hybrids freesia	corm	35 - 40° F.	Treat as gladiolus.
<i>Gladiolus</i> hybrids gladiolus	corm	35 - 40° F.	Dig 6 or 8 weeks after bloom or when frost kills foliage. Cure 2 to 3 weeks in a dry, well-ventilated area at about 60 - 70° F. Remove old corm and cormels. Store in labeled paper bags.
<i>Gloriosa superba</i> glory lily	tuberous roots	40 - 50° F.	May be stored in the pot or dig the tuberous roots and store like dahlias. May be started indoors again after 2 months storage.
<i>Hymenocallis narcissifolia</i> (ismene) Peruvian daffodil, spider lily	bulb	60 - 65° F.	Dig before frost. Avoid breaking the heavy roots attached to the bulb. Store upside down in vermiculite or dry sand.
<i>Tritonia</i> spp. tritonia	corm	35 - 40° F.	Dig before freezing. Otherwise store and handle as gladiolus. Do not break corm cluster apart until spring.
<i>Oxalis</i> spp. wood sorrel	bulb	35 - 40° F.	Dig after tops freeze and store in paper bags or in vermiculite.
<i>Tigridia pavonia</i> peacock flower	corm	35 - 40° F.	Dig 6 to 8 weeks after bloom or after frost. Cure and store like gladiolus.
<i>Polianthes tuberosa</i> tuberose	tuber	55 - 65° F.	Dig after tops die or are killed by frost. Store in plastic bags with sand or vermiculite.

For more information, the following fact sheets are available:

FS-1115-A Growing Dahlias

FS-1116-A Forcing Bulbs for Winter Beauty Indoors

For ordering information call (612)625-8173.

www.extension.umn.edu

FS-1117-A

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