

Cut Flower Storage

The work with cut flower storage has continued since Charles Fischer left us for commercial work. Several problems remain to be worked out but enough information has been developed that many florists have constructed refrigerators, many more are contemplating conversion or construction soon.

The following points of interest may be of help as a guide in your storage work. These points are based on our present knowledge of the problem arising from our experiments and experiences of growers. We expect these suggestions will change somewhat as the work progresses. Many graduate students are working on various phases of the storage problem at Cornell. Their work and the experiences of growers are responsible for the information here compiled.

1. The Refrigerator Requirements. Well insulated on all sides. A slatted wooden floor with not less than a two-inch air space below to permit free air circulation. Air space left between all sides and the flower containers. Some means of continuous air circulation is necessary to prevent stratification. Use care in loading refrigerator to prevent blocking of air movement. Refrigerator should be used exclusively for storage and entered as little as possible.

2. Refrigerator Equipment. Diffusor type of fan operates continuously. Size sufficient to permit as small a difference of temperature between air and refrigeration coils as possible. Automatic defroster is necessary. Thermostat accurate with a tolerance not greater than 1° F. No humidification necessary.

3. Temperature. Maintain 31° F for all flowers excepting Cattleya, Phalaenopsis, some other orchids, and Gladiolus.

4. Containers. Air-tight and vapor-tight. When filled with flowers have little air space.

Cellophane packs. Good, expensive, slow to handle, punctured by rose thorns, do not permit stacking, and are difficult to obtain.

Flat shipping boxes. Should be paraffined to prevent water absorption, difficult to make air-tight, stack with slats between boxes for air circulation.

Leverpak Drums are probably the most satisfactory. They have clamp on lids, are air and water-tight. Produced by Continental Can Company, Van Wert, Ohio -- come in various sizes for the kind of flowers you have. Round cans facilitate air circulation.

5. Condition of flowers entering storage. Well grown, free from all diseases. Fresh cut. The shorter the interval from cut to low temperature, the better. Cool flowers rapidly by leaving the cover off for the first few hours in storage.

6. Treatment of flowers before storing. May be placed in water for a few hours at 40° F or can be packed direct from the plant.

Flowers may be graded and bunched before storing or this may be done after they are removed from storage.

7. Botrytis is a special problem with lilies, tulips and carnations. With these, no sprinkling should be permitted, and the flowers should go into the containers from a dry atmosphere and the foliage and flowers free from all water drops.

8. Treatment on removal from storage. Place in 70° F water at a temperature of 40 to 45° to regain turgidity (harden). Six hours or more is usually necessary. Never allow flowers to remain in air-tight cans. Botrytis may be serious after cans are removed from storage. Cutting stems is desirable but not necessary if conditions for water movement into the flowers are favorable and conditions for loss are unfavorable.

If flower preservatives are used, this is the time.

Weeks for Storage*

Flower	Flowers Dependably as Good as Fresh	Maximum Time Independably as Good as Fresh	Remarks
Roses (Better Times)	2 weeks	3 weeks	Other varieties store better.
Carnations	4	8	Botrytis a problem.
Snapdragons	4	7	Varieties differ.
Chrysanthemum	6	8	
Gardenias	2	3	
Lilies	3	8	Botrytis serious.
Tulips	8	10	"
Narcissus	4	6	
Lily-of-the-valley	2	4	
Wedgewood Iris	2	3	

* We have worked on a few of the common commercial varieties. Obviously some varieties will store better than others. We are depending on you for this information.