Postharvest handling of cut flowers

CUT flowers are highly perishable. Since flowers are valued for their beauty, it is important that they are handled properly after harvest so that they remain fresh for the longest time possible.

Sorting the harvested flowers

Sort the flowers according to the following: cultivar stage of maturity, extent of damage due to pests and diseases, malformed floral parts and color defects.

- Grade according to the length of the stem or the size of the flower
- Bunch flowers according to number, cost, susceptibility to injury, and display quality of individual flower heads.

Packing the flowers

Tie bunches below the flower head, and about two inches from the cut stem ends. Tying should not be too loose or too tight. Rubber bands are best, because they can hold the bunches securely. They are easier to use and cheaper than tape or wire.

Place the bunched flowers in sleeves to prevent them from becoming entangled with each other. The sleeves may be made of plastic sheets, absorbent paper, wax paper or cellophane. Do not close the top of the sleeve.

Place the flowers in a fiberboard or styrofoam box. Arrange in layers according to type. Alternate layers of flowers should have the heads at the same end. Use rolled newspapers placed below the flower heads to minimize mechanical injury.

Fig. 1. Placing flowers in a clear plastic steeve
Conditioning

Condition the flowers to rehydrate and to overcome slight wilting. The purpose is to load the flower with water to ensure maximum turgidity at the time of sale and utilization.

Follow these steps for proper conditioning:

- Remove about 5-8 cm or 2-3 inches or more of the stem ends if the stems have been out of water for a long time.
- Soak the cut stem ends in warm water (40-43 °C, pH 3.5), preferably in a cool room, until flowers are fully rehydrated.

Adding sugar to the water

Sugar should be added to the water of flowers at the bud stage, or if flowers are to be shipped to distant markets or stored for an extended period. The stalks should be put in a 10-20% sugar concentration for between 12 and 24 hours. Too much sugar may result in leaf yellowing, although there may be no noticeable injury to the flowers. To acidify the solution, it is suggested that you add a small amount of citric acid as follows:

- For soft water, use 0.1 g/L
- For medium hard water, use 0.3 g/L
- For hard water, use 0.45 g/L

Storage

Store high-quality, disease free and sorted cut flowers at the lowest temperature possible. Avoid chilling injury. For wet storage, keep the cut stem ends in water or flower preservative. For dry-pack storage, seal flowers inside plastic bags or airtight cylinders made of either plastic or metal. Gently press the sides of plastic containers to remove as much air as possible before sealing the bags.

Fig. 2. Sorting cut orchids