



Agri Articles

(e-Magazine for Agricultural Articles)

Volume: 04, Issue: 05 (SEP-OCT, 2024)

Available online at <http://www.agriarticles.com>

© Agri Articles, ISSN: 2582-9882

Packaging Materials for Flowers

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Flowers are delicate and susceptible to damage during transport. Quality packaging safeguards them from external elements, such as temperature changes, humidity, and physical shocks, ensuring they arrive in pristine condition. Florists should use their imagination and creativity to come up with perfect packaging that will prevent lowering and interfering with the flower quality. For carefully designed and functional flower packaging, consider the below aspects. possible on the packaging design and material to ensure that it will protect the flowers depending on the mode of transport and length of transportation. If the fastening accessories, material or style of packaging can cause the slightest damage to the flowers, it should be discarded. Because of that, there will be many restrictions when creating a package design or choosing a packaging material. It is always recommended to start with the packaging material to get the best style or packaging. Fresh-cut flowers typically last 7–12 days, but with proper care, they can last up to two weeks. The shelf life of flowers depends on the variety and how they are treated. In extreme heat this reduces slightly but with a little extra care you should be able to enjoy them for at least a week.

Ways to increase shelf life

Temperature: Keep flowers in a cool, dark place away from drafts and direct sunlight. You can also try putting your flowers in the fridge overnight.

Humidity: For most flowers, the ideal humidity is around 90%.

Water: Change the water regularly, and remove any leaves that will be underwater. You can also add flower food to the water to help keep the flowers looking fresh. Flower food contains sugar, an acidifier, and bleach to help keep the water balanced and to get rid of bacteria.

Cleanliness: Make sure your vase is clean before adding flowers, as dirt and bacteria can cause flowers to wilt or die faster.

Cutting: Cut the stems of flowers when you receive them to increase the rate at which they absorb water.

Removing leaves: Remove any leaves that are below the water line, as they can rot and create bacteria. You can also remove any leaves that aren't necessary to the look of your arrangement.

Packaging material

Commonly used packing material for flowers are LDPE- Low Density Polyethylene, PO-Polyolefin, Butter paper, PP- Polypropylene, Cellophane, Newspaper, Banana leaves and other materials.



Moisture-resistant flower packaging

Another important advantage over corrugated cardboard for floriculture is that solid cardboard is more moisture-resistant. Flowers and plants are often transported in so-called flower bottles or water holders, which are plastic tubes that provide water to single flowers during transport. The use of these tubes makes it important that the packaging of these flowers is sufficiently moisture-resistant. Solid board has a very high density and is therefore less sensitive to moisture, especially if the material is coated on both sides with a moisture-resistant polyethylene (PE) coating. Should water leak out of the tubes, it will not affect the packaging.

Methods to increase shelf life of flowers

Use preservation packets: These packets can be used during transport, retail, and when the flowers are sold.

Refrigerate: Store flowers at the proper temperature and humidity to reduce respiration and water loss.

Use ice gel sheets: Place ice gel sheets between the layers of small boxes to maintain a low temperature and distribute chillness and moisture.

Use a vapour blanket: Surround flowers with an aromatic flower essence, such as lavender or rose, to extend shelf life.

Use a magnesium carbonate sediment layer: Envelop the cut flower ends in a layer of magnesium carbonate to provide bacterial filtration, oxygen buffering, and water-borne nutrition.

Treat with boric acid: Treat flowers with boric acid before packing.

Use lightweight cardboard boxes: Use light weight cardboard boxes lined with aluminium foil.

Use thermocole boxes: Package the cardboard boxes in large thermocole boxes with ice gel packs.

Transport in refrigerated vans: Transport the boxes in refrigerated vans to the airport and then to the destination.

Storage

Storage of flowers is a vital practice of post harvest handling/management of flowers. It results in orderly marketing, reduced retailer's hazard resulting from demand, anticipating holidays, improved production efficiency; elimination of green house production in deep winters, saving energy and making possible long term shipment. The storage may be done by different methods including cold storage (wet and dry cold storage), controlled atmospheric storage, modified atmospheric storage, low pressure storage, etc.

Cold storage: Cold storage of fresh flowers is the number one priority in flower preservation. Throughout the cold chain from grower to trader and florist, flowers must be kept chilled. For this, you can opt for transporting cut flowers with remote temperature monitoring, which guarantees the quality of the cut flowers transported.

Wet storage: Wet storage of flowers helps in transport because it helps flowers retain their freshness and hydration: Cut flowers lose water quickly after being cut from their roots, so they need to be rehydrated to stay fresh. Wet storage involves dipping the stems of the flowers in water or a preservative solution. Cut flowers need high humidity levels to stay fresh, around 90–95%. Flowers should be stored at a temperature of 1–8°C. Flowers should be transported along predetermined routes as quickly as possible to minimize damage.



Dry storage: For long-term storage, the dry storage method is used. To prevent moisture loss, flowers should harvest in early morning and then graded and packed in plastic sleeves/bags/boxes. Before storage, flowers can be pulsed with floral preservatives comprising sugar, antimicrobial, and anti-ethylene chemicals. Before placing items in polythene sacks or boxes, line them with a butter paper bag or newspaper. Wrapping flowers in soft paper will absorb any moisture that forms on the bloom.

Temperature

Different types of flowers require different storage temperatures:

Temperate flowers: Such as roses and carnations, these flowers are stored at 0–1°C

Subtropical flowers: Such as gladiolus, jasmines, proteas, and gloriosa, these flowers are stored at 4–7°C

Tropical flowers: Such as anthurium, cattleya, vanda, and euphorbia, these flowers are stored at 7–15°C

Advantages and disadvantages of packing materials

Environmental impact: Sustainable packaging can help reduce greenhouse gas emissions, prevent pollution, and conserve natural resources.

Carbon footprint: Buying locally grown flowers can reduce the carbon footprint associated with transporting them over long distances.

Cost-effectiveness: Plastic packaging is often inexpensive and lightweight, which can save on shipping and transportation costs.

Durability: Paper packaging may not be suitable for heavy or bulky items, as it can tear when handled roughly or in extreme conditions.

Glass: Glass containers are food-safe, corrosion-resistant, and aesthetically pleasing, but they are not highly impact resistant and require a lot of energy to manufacture.

Conclusion

Sticking to the right post-harvesting techniques plays an important role in increasing the shelf-life of fresh produce. The use of efficient techniques such as appropriate packaging, temperature control, humidity management, natural additives, quality control, and clear labeling can help to retain the freshness of the fresh produce, thereby extending its shelf life