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Fresh cut flowers are highly susceptible to dehydration and wilting as soon as removed from their water source. Loss of water in flowers adversely affects their functionality, and in extreme cases leads to flower death. During shipping, cut flowers tend to lose significant amount of water due to the lack of water source. The temperature and humidity level fluctuations during transport further adds to the decline in flower quality and vase life.

FloraLife® Bouquet wrap is a user friendly and extremely convenient option to keep flowers hydrated and fresh during shipping. The bouquet wrap material is soft and flexible and composed of 70% plant-based fibers. It provides hydrating solution to the flowers during the stressful transport phase. As a result, the bouquets arrive to their final destination looking fresh and hydrated. The dry material is wrapped around the stem ends, then dipped in water, and sealed in a bag to prevent spillage. Internal testing has shown that the wrap provides hydration for 48 hours. This is due to the unique material composition which readily releases moisture to flowers during the shipping process. In this research update, we present data from the testing of FloraLife® Bouquet Wraps using Colombian grown flowers.

Methods:

Treatments

1. Control-No Wrap
2. FloraLife® Bouquet Wrap

Crops: Freedom Rose, Titanic Rose, Orange Crush Rose, Chrysanthemum white.

Flowers were received dry packed from commercial farm. Boxes were stored dry until testing. Flowers were hydrated in FloraLife® Express Clear 200 for 4 hours in a cooler (2 °C / 35.6 °F), and then were arranged into 24 bouquets containing 5 stems of each cultivar. Weights were recorded, and wrap treatments were applied. Bouquet stem ends were wrapped with the flexible wrap material and tied using a rubber band, then dipped in water for a few seconds until the wraps were completely wet. The wraps were sealed in poly bags using rubber bands to prevent any water leakage. The Bouquets were randomly placed into 3 boxes with each containing 1 rep (bouquet) from each

treatment. Boxes were placed in the cooler for 24 hours and then moved to room temperature (21°C / 70 °F) for 48 hours to simulate air transport with no temperature control. Bouquets were re-weighed and processed into vases containing FloraLife® Flower Food 300. Mean results from two different tests are being reported here:

Treatments	Mean Bouquet Weight Loss
Control: No Wrap	62.8 g / 2.22 oz
FloraLife® Bouquet Wrap	12.8 g / 0.45 oz

Bouquet Weight. (Loss/Gain) (grams)

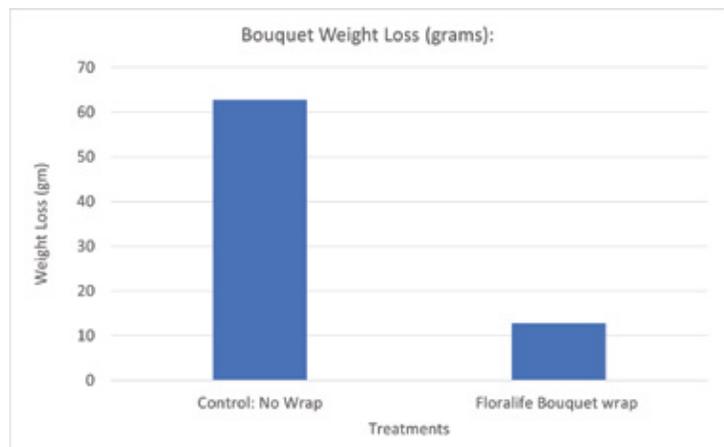
After storing for 48 hours, bouquet weights were recorded. Wraps were removed before weighing. After 48 hours of simulated storage, a significant improvement in weight was observed with FloraLife® Bouquet Wrap treatments compared to control (no wrap). The FloraLife® Bouquet Wrap treatment showed a weight loss of 12.8 grams while the control no wrap treatments showed a much greater loss of 62.8 grams. The control no wrap treated bouquets appeared more dehydrated after storage and took longer to recover in the vases compared to bouquets that shipped with wraps.

Conclusion:

- After 48 hours of simulated shipment, the FloraLife® Bouquet Wrap treatment helped flowers maintain significantly higher weight compared to control no wrap.
- Wraps reduced water loss and prevented wilting after storage and in vases.
- The FloraLife® Bouquet Wrap treated flowers appeared fresher and more hydrated compared to no wrap control.

Figure: Mean bouquet weight loss (grams) after 48 hours of storage

The figure shows that flowers with no wrap lost significantly higher amounts of weight (grams) compared to FloraLife® Bouquet Wrap treated flowers. The FloraLife® Bouquet Wrap provided an additional water source keeping the flowers hydrated during storage.





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Bouquet Quality: Out of the box after 48 hours shipping simulation.



Control (No Wrap)



FloraLife® Bouquet Wrap

Flowers immediately after placing in vase solution.



Control (No Wrap)



FloraLife® Bouquet Wrap