Research Update powered by FloraLife

FloraLife® Bouquet Wrap Effective at Maintaining Freshness at High Temperatures

November 2023

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Introduction

Wrapping of bouquet stem ends in a water holding material prior to e-commerce shipping is often done to ensure that the bouquet arrives at its final destination looking fresh and hydrated. We wanted to evaluate the effects of FloraLife® Bouquet Wrap on fresh weight (FWT) loss, vase solution uptake, and vase life during simulated 48-hour shipping at two different temperatures 20C (68F) or 30C (86F).

Methods

'Freedom', 'Pink Floyd', 'Orange Crush', and 'Deep Purple' roses were received from a Colombian grower. Flowers were air-freighted to Miami and dry-shipped on refrigerated truck to a local wholesaler. Flower bunches were randomized into 4 treatment groups of 9 stems of each cultivar. For each treatment, flowers were assembled into three mixed rose bouquets containing 3 stems of each cultivar and placed in standard plastic bouquet sleeves. Bouquets were hydrated in tap water overnight in the flower cooler at 3C (37F) and fresh weights recorded. FloraLife® Bouquet Wrap treatments were applied, and flowers were dry packed in shipping boxes and placed in darkness in separate rooms at the two simulated shipping temperatures:

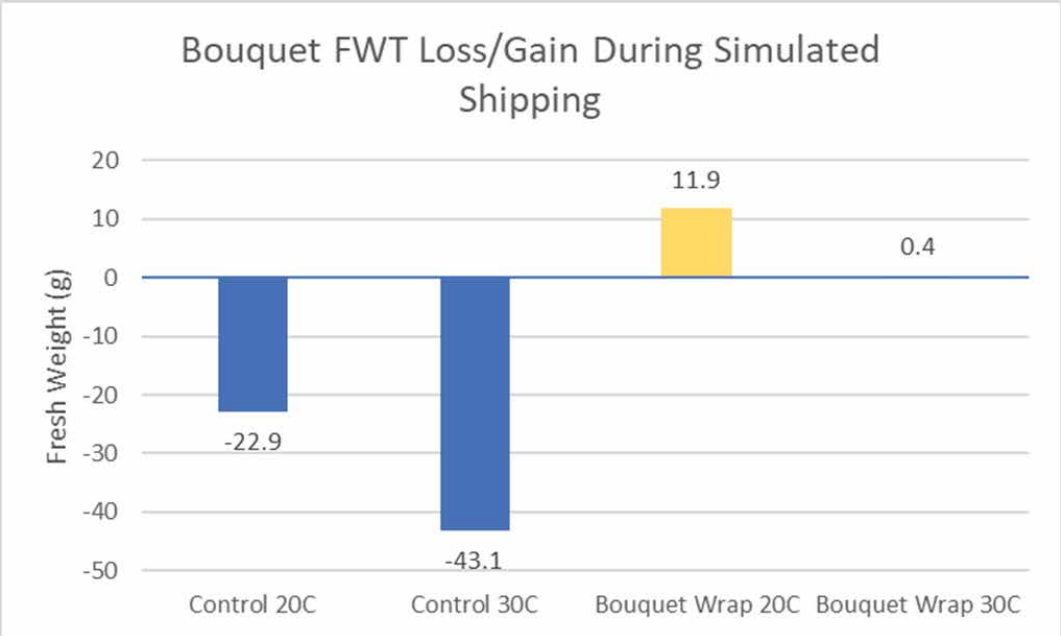
1. Control – 48-hour simulated shipping at 20C (68F)
2. Control – 48-hour simulated shipping at 30C (86F)
3. FloraLife® Bouquet Wrap – 48-hour simulated shipping at 20C (68F)
4. FloraLife® Bouquet Wrap – 48-hour simulated shipping at 30C (86F)

Following simulated shipping treatments, bouquets were unpacked and weighed. Bouquet wrap treatments were removed prior to weighing. Photos were taken and bouquets were given a fresh cut and placed in vases containing exactly 1 liter of FloraLife® Clear 300 flower food for consumer vase-life evaluation.

Data

- Bouquet fresh weight loss or gain
- Vase life (days)
- Vase solution uptake day 5

Results



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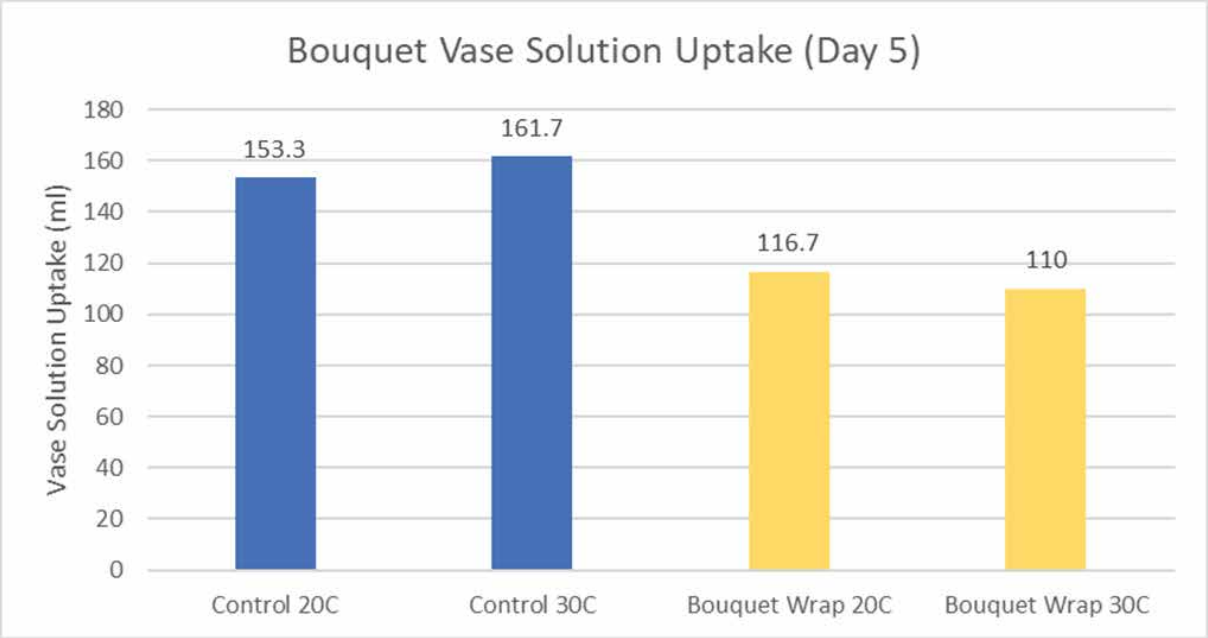

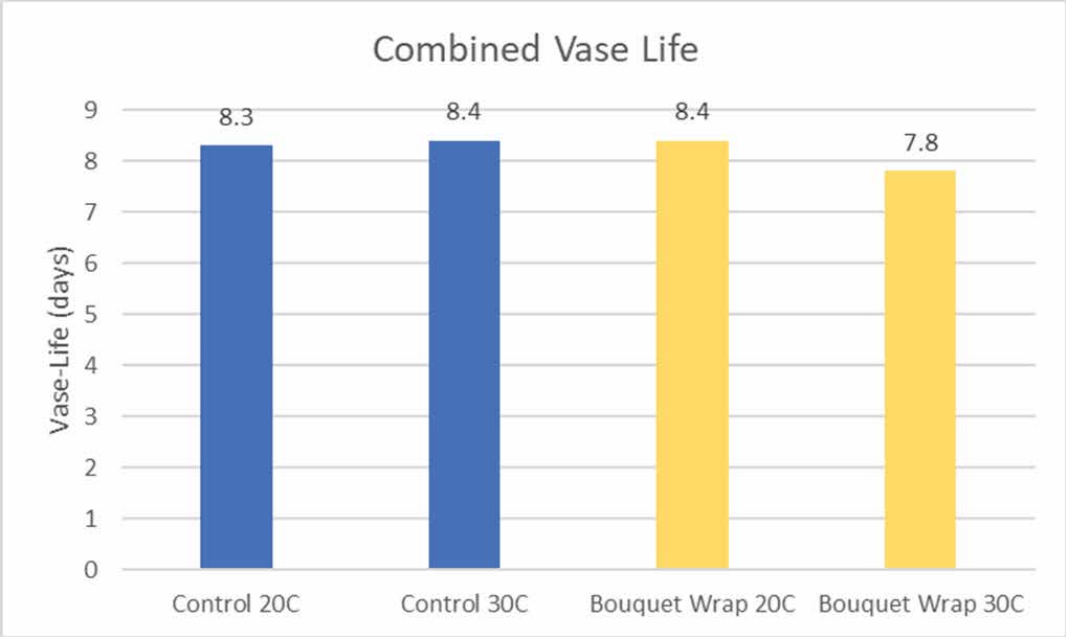

Conclusions

- FWT loss nearly doubled in control bouquets at 30C simulated shipping compared to 20C simulated shipping.
- The FloraLife® Bouquet Wrap treatment resulted in a significant FWT gain (11.9 g) at 20C simulated shipping and a minimal FWT gain (0.4 g) at 30C simulated shipping – even at high temperatures, bouquets remained hydrated.
- Day 5 vase solution uptake was significantly higher in controls compared to FloraLife® Bouquet Wrap treatments regardless of simulated shipping temperature – this is likely due to bouquets being more hydrated prior to going into vase solutions.
- Temperature and FloraLife® Bouquet Wrap treatment had no significant effect on combined vase life.

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Photos: Day 0 following simulated shipping

Control Day 0 20C

Control Day 0 30C

Bouquet Wrap Day 0 20C

Bouquet Wrap Day 0 30C

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Control Day 7 20C

Control Day 7 30C

Control Day 7 20C

Control Day 7 30C

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