

conditions over a limited period and does not account for long-term storage or transportation factors affecting vase life. Based on the findings from this study it is recommended to study other cultivars of zinnias to see if they produce the same results using these treatments as well as other cut flower grown by small regional growers such as cosmos (*Cosmos bipinnatus*), sunflowers (*Helianthus*), marigolds (*Tagaetes*), celosia (*Celosia argentea*) to investigate if other specialty cut flower species respond in a similar manner.

Authors' contributions

Lauren Baskin and Cole Etheredge were the principal researchers who conceptualized the research idea, collected, and analyzed the research data, and prepared the manuscript. James DelPrince, Tongyin Li, and Myles Landers assisted in analysis, verification, editing, and proofreading of the manuscript. All authors read and approved the final manuscript.

Conflict of Interest Disclosure

The authors declare that they have no competing interests.

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