Stop and Smell the Flowers: A Continuation of the Assessment of the Effects of Aeration in Regards to the Lifespan and Bacteria Presence of the Chrysanthemum Grandiflorum

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Still water in floral buckets often produces bacteria and pollutants, leading to shorter life, inventory shrink, and waste of salvageable flowers. A plan was composed to aerate water in these buckets to see if the amount of bacteria would be reduced, therefore lengthening floral life. Ten control buckets with chrysanthemums and water, ten buckets with invented airline devices connected to an air pump with chrysanthemums and water, and ten buckets with a hose barb adapter connected to an air pump with chrysanthemums and water were tested over a 14-day period. The hypotheses were: (1) "If bacteria and pollutant levels are tested in floral buckets filled with water, chrysanthemums and no aeration, then the bacteria and pollutant levels will be elevated." (2) "If hose barb adapters are connected to pumps and placed in the buckets to provide aeration, then the bacteria and pollutant levels will not be as prominent." (3) "If invented airline devices are implemented into the buckets and provide aeration to the buckets, then the lowest level of bacteria and pollutant levels will be found." After evaluating spectrophotometer readings for pollutants and partnering with a research institution to evaluate the presence of bacteria, yeast and mold, it was found that the buckets with no aeration had the highest bacteria presence and most pollutants. In conclusion, the buckets with the invented airline devices and hose barb adapters both successfully reduced the amount of bacteria and pollutants, significantly improved floral lifespan, and created larger and longer-lasting blooms.

Awards Won:

Fourth Award of $500