Stop and Smell the Flowers: The Assessment of the Effects of Aeration in Regards to Lifespan and Bacteria Presence of the Lilium orientalis

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Still water in floral buckets often produces bacteria, leading to shorter life, inventory shrink, a loss of money 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 their life. In order to reduce bacteria, three control buckets with lilies and water, three buckets with airstones connected to an air pump, and three buckets with a barbed hose adapter connected to an air pump would be tested over a 14-day period. The hypotheses were: The first was, "If bacteria and ammonia-nitrogen levels are tested in floral buckets filled with water, lillies and no aeration, then the bacteria and ammonia-nitrogen levels will be elevated." The second hypothesis was, "If airstones are connected to pumps and placed in the buckets to provide aeration, then the bacteria and ammonia-nitrogen levels will not be as prominent." The third was is, "If hose barb adapters are implemented into the buckets and provide aeration to the buckets, then the lowest level of bacteria and ammonia-nitrogen levels will be found." After using a spectrophotometer to test ammonia-nitrogen and doing a qualitative observation of bacteria present, it was found that the buckets with no aeration had the intermediate bacteria presence and most ammonia-nitrogen. The buckets with airstones had the most bacteria presence and least ammonia-nitrogen. The buckets with hose barb adapters had the least bacteria presence and intermediate ammonia-nitrogen level.

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