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Floralife® TransportCARE™ Paper— A New Tool for Fresh Cut Flower Quality

Background

Maintaining sanitation and keeping flowers and foliage disease-free are vital aspects for cut flower quality. Gray mold, caused by the fungus *Botrytis*, is a major postharvest disease in fresh cut flowers, especially roses. *Botrytis* has been a major contributor to the shrink (or waste) of fresh cut flowers for a long time. Its fungal spores are usually already in flowers at the grower farm level where they are initially packed. When environmental conditions are conducive (high humidity and temperatures), spores grow and spread the disease. Visual signs of infection appear when the flower petals develop patches of browning and then quickly turn into crisp dead tissue. *Botrytis* can significantly reduce the value of fresh cut flowers.

Floralife, Inc. has recently introduced a brand new product specifically for the floriculture market which inhibits the spread of premature *Botrytis* sporulation during the shipment of cut flowers in boxes. The new product, Floralife® TransportCARE™ paper, is a 10" x 40" waxed tissue sheet which has been impregnated with compounds that release chlorine dioxide gas when subjected to humidity. Chlorine dioxide has shown to be effective in inhibiting the spread of premature *Botrytis* disease spores. The sheets are be utilized in fresh cut flower boxes at the grower farm level when packing. The treatment takes effect during the time of shipment to the customer.

Research

A number of experiments have been conducted to evaluate the effectiveness of Floralife® TransportCARE™ paper. Product treatment was arranged and completed at the grower farm level during the time of packing flowers. Boxes were subjected to typical air freight shipping and storage conditions. Flowers were then taken out of the boxes and precessed for postharvest vase life evaluation.

Photographs below show the appearance of flowers with and without the treatment at postharvest evaluation stage. The control flowers (no treatment) showed definite signs of *Botrytis* infection, whereas flowers treated with Floralife® TransportCARE™ paper did not show early signs after seven days.



Control
'Orlando' Rose



Treated with Floralife® TransportCARE™ Paper
'Orlando' Rose



Control
'Freedom' Rose



Treated with Floralife® TransportCARE™ Paper
'Freedom' Rose



Control
'Zembla White' Chrysanthemum



Treated with Floralife® TransportCARE™ Paper
'Zembla White' Chrysanthemum

Conclusions

Floralife® TransportCARE™ paper was effective in inhibiting the spread of premature *Botrytis* spores during the shipping of flowers. It aided in maintaining the postharvest quality of both the rose and chrysanthemum varieties tested in this research. The benefit and research results of this new product treatment will vary dependent upon the susceptibility of the variety, the amount of exposure of disease to the flowers at the field level, and also environmental conditions.

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