

AiroCide® PPT Photocatalytic Air Purifying Technology

AiroCide PPT photocatalytic air purifiers contain the same NASA-developed technology used in a variety of *AiroCide* air purifying product lines. In addition to serving the floral and perishable preservation and food safety industry, the technology is has been developed to kill/remove/eliminate airborne pathogenic and non-pathogenic microorganisms in vegetative and spore states (bacteria, mold & fungi, viruses and dust mites), allergens, odors and harmful volatile organic compounds (VOC's) in air in a variety of commercial, government, and residential applications including the medical healthcare industry (*AiroCide* air purifiers are FDA Class II listed medical devices).

Summary

A study was conducted in the refrigerated cooler of a Atlanta, GA regional wholesale florist to determine if the *AiroCide* photocatalytic air purifying technology could reduce the amount of airborne mold and bacteria.

The *AiroCide* air purifying system in the cooler reduced the amount of airborne mold and bacteria by 92% and 58%, respectively, in 24 hours.

Facility

The 17,010 ft³ refrigerated cooler contained three sections that were divided by flexible plastic sheeting draped from the ceiling which allowed air to move freely throughout the entire cooler. The main section of the cooler housed mixed cut flowers in buckets, while two smaller areas held greens and flowers that had been prepared for shipment. Temperature in the cooler was maintained at 45°F at the time of the test.

Protocol

The test period consisted of two (2) consecutive days of air sampling. A baseline reading, with no system operating, was conducted for comparison to the “Active On” test. After the system (2 ACS-100 units) was operating for 24 hours, air samples were taken again the next day at the same sites and times of day. Each air sample measured two types of microbes, airborne bacteria and airborne mold. Samples were taken inside the cooler and directly

outside the building.

Results

The *AiroCide* air purifying system in the cooler reduced airborne mold and bacteria by 92% and 58%, respectively, in 24 hours. These results are significant when compared to the airborne mold and bacteria levels outside the building, which increased by 43% and 342% respectively.

Mold

Test Site	Baseline	24 hrs.	
	CFU/m ³	CFU/m ³	% Change*
Floral Cooler	1,425	118	- 92%
Outside	495	707	+ 43%

Bacteria

Test Site	Baseline	24 hrs.	
	CFU/m ³	CFU/m ³	% Change*
Floral Cooler	141	59	- 58%
Outside	24	106	+ 342%

Copies of tests mentioned in this paper can be obtained by writing KesAir, Research & Development, 3625 Kennesaw N. Ind.Pkwy., Kennesaw, GA 30144.

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