BATTA Technologies

Case Study

Citrus Warehouse - Valencia, Spain

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 citrus warehouse of a produce wholesaler in Valencia, Spain to determine if the *AiroCide PPT* air purifying technology could reduce the amount of airborne mold present in the warehouse.

The *AiroCide* air purifying system in the warehouse reduced the amount of airborne mold by 79% in one week.

Facility

The 43,400 ft^3 warehouse held oranges at the time of the test. Temperature in the cooler was maintained at 54°F during the seven days of air sampling.

Protocol

The test period consisted of two (2) days of air sampling, seven (7) days apart. Baseline readings, with no *AiroCide* air purifying system operating, were conducted for comparison to the "Active On" test. After the system (2 ACS-100 units) was operating for seven (7) days, air samples were taken again at the same sites and times of day.

Results

The *AiroCide* air purifying system in the warehouse reduced airborne mold by 79% in seven (7) days.

Specific Mold Species Reductions After 7 Days of AiroCide Use	
Penicillium italicum	*100%*
Penicillium digitatum	*100%*
Penicillium spp.	*72%*
Cladosporium spp.	*88%*

One (1) *AiroCide PPT* air purifier model ACS-100 is designed to clean the air in enclosed areas up to 50,000 ft^3 in volume (1,415 m^3) under standard operating conditions. *

One (1) *AiroCide PPT* air purifier model ACS-50 is designed to clean the air in enclosed areas up to 25,000 ft^3 in volume (707 m^3) under standard operating conditions. *

**AiroCide PPT* air purifier specification requirements may vary according to the temperature and design of enclosure as well as the sensitivity of its contents to airborne mold, bacteria and ethylene gas. In order to obtain a target airborne pathogen reduction of 90% or greater within 48 hours, KES recommends adhering to the defined specifications.

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

www.kesair.com www.kesmist.com 800-627-4913