

AiroCide PPT™ – Perishables Preservation Technology

AiroCide PPT™ contains the same NASA-developed technology that is used in a variety of AiroCide product lines. In addition to serving the floral and perishable preservation and food safety industry the AiroCide™ technology 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 market applications including the medical healthcare industry (AiroCide is listed as an FDA Class II Medical Device).

Summary:

We conducted a clinical study of the *AiroCide PPT* airborne pathogen killing technology in the floral cooler inside the facility of Coflores, major cut flower wholesaler in Madrid, Spain. The data supports the hypothesis that airborne mold levels would be dramatically lowered after six (6) days of continuous operation of the *AiroCide PPT* system. The results show an average airborne **reduction** of 96.01% inside the cooler in six (6) days.

Protocol:

The floral cooler used in this study was approximately 125 m³ in volume . The test period consisted of six (6) days of air sampling in April 2005. A baseline air sample was taken in each test location in the cooler on the 12/04/05, without the *AiroCide™* unit operating. On the same day, one (1) unit *AiroCide PPT* placed inside the floral cooler was turned on and allowed to operate continuously for six (6) days. Active On samples were taken in the same two locations after six (6) days of continuous *AiroCide™* use on the 18/04/05. All air samples were taken for future comparison.

Air samples were taken with an air sampler Aerotech 6® on 4 x 90 mm plastic petri dishes. Samples were cultured on Sabouraud Chloramphenicol Agar plate by *Centro Analítico Pozuelo*, Madrid, providing the resulting measured colony forming units (CFU) per cubic meter of air. All agar plates were exposed to 0.5 l/sec. of air and a total measured air volume of 1000 l.

Results:

The Table 1 shows airborne **reduction** inside the cooler in two different points of 98.52% and 93.50%, or an average of 96.01% in six (6) days.

Table 1

Mold Spores	Zone	12/04/05		18/04/05	
		Baseline CFU/m ³	6 days CFU/m ³	Change	
Cooler	1	202	3	-98.52%	
Cooler	2	89	6	-93.50%	

One (1) *AiroCide PPT* model ACS-100 is designed to clean the air in enclosed areas up to 1.415m³ (50.000 ft³) under standard operating conditions.*

One (1) *AiroCide PPT* model ACS-50 is designed to clean the air in enclosed areas up to 707 m³ (25.000 ft³) under standard operating conditions.*

**AiroCide PPT* 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, we recommend adhering to the defined specifications.