




Disposable Non-Viable Cassette Comparison Chart

	 1996 Air-O-Cell®	 2002 Micro5®	 2005 Allergenco-D®
Liters Per Minute	15 Liters per minute/ 1-10 minutes	5 Liters per minute/ 1-5 Minutes	15 Liters per minute/ 1-10 minutes
Design	Requires Tubing Adapters*	Does not require Tubing Adapters	Patented Laminar Flow Does not require Tubing Adapters
Uniformity	Uneven Slit Sample Collection: spores concentrate in center	Even Circular Sample Collection	Even Slit Sample Collection: the most uniform deposit in the industry
Variance	50% Coefficient of Variation	20% Coefficient of Variation	18% Coefficient of Variation
Spore Cut Off	d50: Spore Cut off Size- **2.6 Microns	d50: Spore Cut off Size - **0.8 Micron	d50: Spore Cut off Size- **1.7 Microns
Analysis	Larger trace makes analysis more time consuming	Laboratory Use: Easy 100% read on the entire sample trace	Sharp Edge Trace. 20% smaller trace makes analysis less time consuming

*2006- Air-O-Cell® modified to duplicate Allergenco-D® design. Tubing adapters no longer required.

**Worldwide Exposure Standards for Mold & Bacteria- R.C. Brandys, PhD, MPH, PE, CIH, CSP, CMR

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New Allergenco-D® Study

to be Published, Fall 2006

Recently, Sergey Grishpun, Ph.D., Professor, Kettering Laboratories, Center for Health-Related Aerosol Studies, Department of Environmental Health, University of Cincinnati evaluated the Allergenco-D® under carefully controlled laboratory conditions as well as in field studies.

Professor Grishpun reported the following preliminary results:

Efficiency	The overall capture efficiency (d50 ~ 1.7µm) of the Allergenco-D® cassette was close to its actual collection efficiency, suggesting that the losses were relatively low.
Collection Efficiency compared to the Air-O-Cell® cassette	Our lab data obtained with the Allergenco-D cassette, challenged with <i>C. cladosporioides</i> , <i>A. versicolor</i> , and <i>P. melinii</i> , revealed that it has higher actual collection efficiency compared to the Air-O-Cell®. The difference depends on the spore size and may exceed factor 2. This effect is more pronounced for smaller particles. The field tests performed with the Allergenco-D (cassette), Allergenco®-box, and the Air-O-Cell® cassette operating in parallel at three sites confirmed the lab findings. The field samples had a broad variety of fungal species.
Deposition area compared to the Air-O-Cell® cassette	The deposition area (trace) on the new Allergenco-D's impaction slide appeared to be narrower than that of the Air-O-Cell®.
Spore Count Methods	For each cassette, the Allergenco-D® and the Air-O-Cell®, the spore counts conducted by the three methods – entire area (100%), partial-A (40 randomly chosen microscopic fields), and partial-B (20 traverses) – gave essentially the same results. This suggests that the partial count can be successfully implemented for both configurations.

These data and results with additional test information will be published in the fall of 2006.

