

Universidad Complutense de Madrid - Test Report on the Efficiency of "Airfree" Air Sterilizer

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TEST REPORT ON THE EFFICIENCY OF "AIRFREE" AIR STERILIZER

The Airfree influence in reducing airborne bacteria and fungus in one 160 m³ room was tested in order to verify the air purifying efficiency of that air sterilizing device.

One Milipore M Air T device was used to filter the air. 100 and 500 l were filtered on each air sample.

The culture means utilized were: TSA (Agar Tripona Soja) bacteria and Sabouraud with Cloranfenicol for fungus. Incubation times and temperatures: 32°C / 72 hours for bacteria and 24°C / 4 days for fungus.

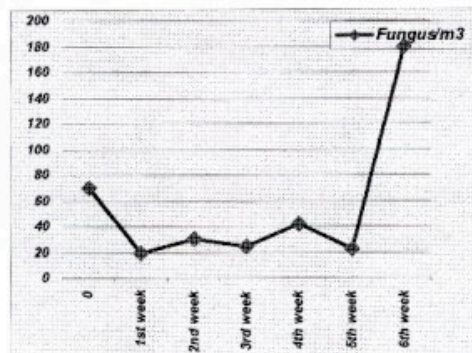
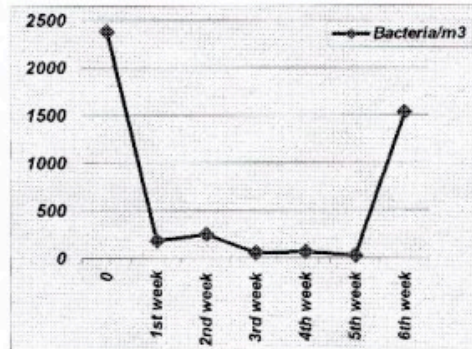
PROTOCOL

- At start up before Airfree air sterilizers were plugged in, one first air sample was taken to verify number of airborne bacteria and fungus colonies per m³.
- After initial air sampling the Airfree air sterilizers were plugged in and placed on the floor, equidistant from each other and remained turned on through out the test.
- After one week another air sample was taken and incubated on TSA and Agar Sabouraud with Cloranfenicol dishes to verify bacteria and fungus levels in the air.
- On the following second, third, fourth and fifth weeks while Airfree devices were still turned on, additional air samples were taken for evaluation.
- At the end of the fifth week, after fifth air sample was taken, the Airfree air sterilizers were turned off and one week after (that is to say on the sixth week since the beginning of the test) another air sample was taken to evaluate the level of airborne fungus and bacteria.

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RESULTS

Days	% reduction	Bacteria/m3	Fungus/m3	% reduction
0		2380	70	
1st week	92%	180	20	71%
2nd week	90%	244	30	57%
3rd week	98%	56	24	66%
4th week	97%	60	42	40%
5th week	99%	20	22	69%
6th week		1530	180	



CONCLUSION

The tested device has high bacteria reduction capacity reaching 99% at the fifth week of operation. With regard to Fungus a 69% reduction was observed at the end of the 5th week which is acceptable specially taking into consideration that initial contamination was low.

Madrid 21 de Julio de 2003



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