

The Degree of Air Contamination in a Veterinary Clinic

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SUMMARY

Although it does not have its own microflora to grow and develop into the air, the atmosphere permanently contains microorganisms. These come either from nature (soil, water, vegetation), or have human or animal origins. The bacteriologic analysis of air allows for the hygienic characterization of its potential to transmit infections through the air.

The purpose of this study was to establish the degree of air contamination within a veterinary clinic. The determinations were carried out in two hospital locations: the examination room, the hospitalization room for dogs. We determined the total number of aerobic mesophilic germs as well as the number of fungi with the use of a MAS-100 Eco device. 3 determinations were performed in the course of a single day, at 7³⁰, 13³⁰ and 19³⁰, the air volume for each plate being of 20 l. After the plates had been incubated for 24 hours at 37 °C (for TCAMB), and for 3 days at 20 °C (for fungi), we counted the colonies that had developed and the results are presented in the following table (in cfu/m³):

Determination time	Examination room		Hospitalization room	
	TCAMB	fungi	TCAMB	fungi
7 ³⁰	750	1300	5200	3000
13 ³⁰	250	350	5100	1150
19 ³⁰	500	700	10.600	1250

The number of germs in the air was smaller in the examination room than that in the hospitalization room in the case of all 3 determinations. This was due to the permanent presence animals in the hospitalization room as compared to their occasional presence in the examination room. In both locations, the number of germs in the air was smaller in the case of the 13³⁰ determination, which can be accounted for by the increase of the activity, namely the frequent opening of the access doors. This reduction was more significant in the case of the examination room.

Comparing the results obtained with the maximum value recommended for veterinary clinics, which is of 800 cfu/m³, we notice that this has been surpassed in the case of all 3 determinations carried out in the hospitalization room. At the same time, the number of mycetes was above the limit in the case of the first determination carried out in the examination room.

We recommend an improvement of ventilation as well as increase of the air decontamination actions, especially when it comes to the hospitalization room.