

Medical Harmlessness

Many tests confirmed that our system has no negative effects on humans and animals.

CIBA-GEIGY undertook tests in fully climatic animal shelters where the ionization system was applied to decontaminate the air. Results of these tests show no damage to the animals and that the airborne germs could be reduced effectively.

Also the institute for air hygiene (ILH) Berlin undertook various tests with our equipment for decontamination of air- and water. Here our systems were tested according to the VDI 6022 and other regulations concerning ventilation and climate systems.

At the same time tests were made in the area of odor neutralization in waste air. The ILH Berlin confirms our systems neutralize odor up to 90%.

In addition tests were made with the WATERLIFE-System by ILH Berlin and the University of Bremen where gram negative bacteria, typical water borne bacteria and ground water contamination were tested.

The institute for Hygiene, Gelsenkirchen did the tests with Legionella. The high and especially fast rate of decomposition of the Legionella bacteria was confirmed by our system.

CIBA–GEIGY

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Summary of the test report of a 5-year study of BENTAX elements in air-conditioning systems undertaken by director Dr. H. Hurni

1. Use of the elements

BENTAX elements are used in all fully air-conditioned rooms. Totally 50 to 60 people constantly work in these departments. The setting of the units ensured that no odor was perceived in the room.

The room temperature is 23 centigrade $\pm 1^\circ$, relative humidity: 55% $\pm 10\%$.

2. Effect on human beings and animals

Under normal conditions we failed to note any negative effect of the ionized air on either human beings or mice, rats, guinea pigs, rabbit, cats or dogs.

The detailed microscopic, histopathological examination of the organs of hundreds of test animals never provided even a symptom of damage, e.g., of mucus membranes of the upper respiratory tract or the lungs.

Employees, on the other hand, requested to be allowed to stay the rooms with ionized air for their lunch break. „The air is very agreeable and fresher in these departments than the air outdoors “.

3. Odor control

As we do not know of any method of measuring odor objectively, we made a blind test with different subjects. In these tests, the odor load was reduced significantly when the elements were switched on and the room air circulated. This reduction can even lead to the fact that no animal odor is felt in a room with animals.

4. Effect on airborne germs

Airborne germs are germs floating in air, settling very slowly, vegetative and spore-forming bacteria and bacilli and fungal spores.

Killing tests at isolators with heavy infestation of the air with only one germ species (1000 – 5000 germs/m³), at 22° C constant temperature, constant relative humidity between 60 – 80 %, air circulated by fans, the results obtained with gram-negative bacteria averaged 75 – 85% and 80 – 95% with gram-positive ones.

5. Result

The BENTAX- elements fully complied with expectations.

Dir. Dr. H. Hurni