

Ministério da Economia
INSTITUTO NACIONAL DE ENGENHARIA E TECNOLOGIA INDUSTRIAL
INSTITUTO DE BIOTECNOLOGIA, QUÍMICA FINA E TECNOLOGIAS ALIMENTARES
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Test-Report

**AIRFREE EFFICIENCY TEST IN REDUCING INDOOR
MICROBIAL POLLUTION (FUNGI AND BACTERIA) AT
"ARQUIVO NACIONAL TORRE DO TOMBO", PORTUGUESE
NATIONAL ARCHIVE OLD DOCUMENTS.**

AIMS

Test **AIRFREE RL60** efficiency in reducing airborne fungi and bacteria in closed environment work places. Study will measure airborne microbiologic charge before and after the use during 31 days of **AIRFREE RL60**.

METHODOLOGY

Test conditions

One 72 m² room was picked up where all kinds of bibliographic material such as files, dossiers and books are treated prior to filing. Three **AIRFREE RL60** units were plugged in.

Duration of test: 36 days from January 13th to February 18th, 1999. Samples were collected in January 13 and 18 (prior to install **AIRFREE RL60** units), and February 8th and 18th, 1999.

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January 13th and 18th represent the effective airborne microbiologic charge before **AIRFREE RL60** units installation. Petri dishes (9 cm diameter) exposed for one hour were used for microorganism count.

Culture media used for airborne microbiologic count.

Fungi: Malt Extract Agar (MEA) Difco
Bacteria: Nutrient Agar (NA) Oxoid.

Conditions of incubation:

Fungi: 25°C 5 to 7 days
Bacteria: 30°C 3 days

The results were expressed in c.f.u. (colony forming units) per dish. Each value representing arithmetic average of 6 Petri dishes, with same culture media, utilizes in the same exposure to the environment.

RESULTS

Fungi and bacteria results are shown in the chart of **Figure 1**.

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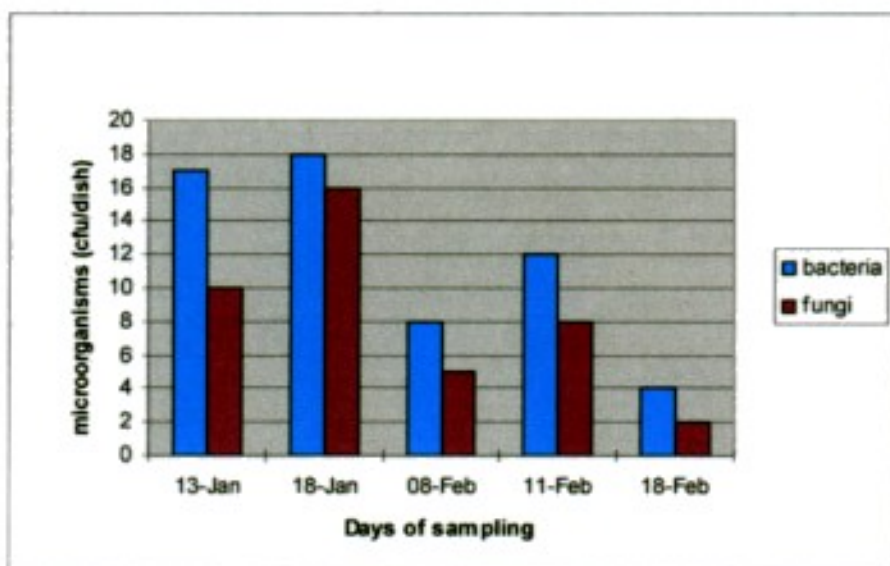


FIGURE 1. – Airfree effect on airborne microbiologic level (fungi and bacteria) level in Higienizing Room. Devices installed after January 18th sampling. Each point represents 6 count average.

Observing Figure 1 it can be seen that **AIRFREE RL60** reduced bacteria and fungi counts, showing its efficiency in reducing that type of airborne microorganisms in such type of room.

Lisbon, 26th February, 1999

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