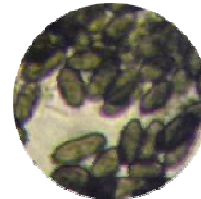




Airborne *Stachybotrys chartarum* detection in offices

RNSA Laboratoire, France



Contexte

Following employee complaints with headaches, respiratory troubles, a French southwest company requested to the RNSA Laboratoire an audit about **the air quality** in their offices. Previous controls with traditional method (impaction) showed nothing. Water infiltrations occurred in the premises in the previous weeks has been reported too. Suspicious contamination by *Stachybotrys chartarum* has been investigated.

Sampling with the **Coriolis@µ** have been carried out in many offices or rooms in January 2009. Others campaigns have been done 3 and 6 months after recommendations and rooms decontamination to be sure it had been efficient.

Material

- Coriolis@µ, sterile cones, sterile collection liquid (0.005% Triton).
- "Scotch test" (surface sampling).
- Optical microscope.

Protocol

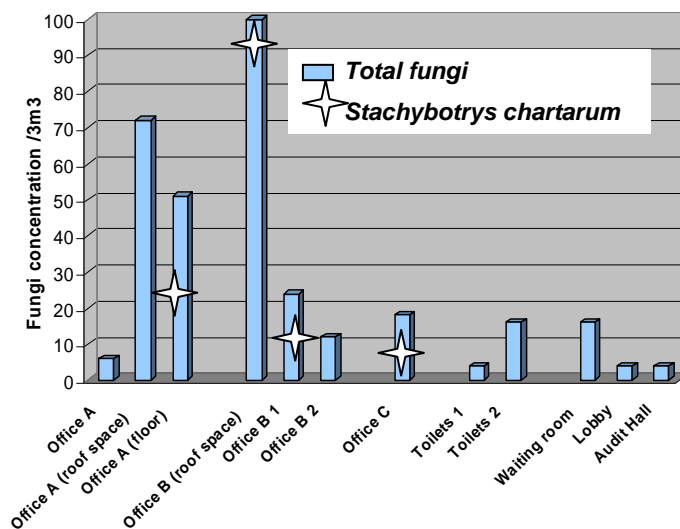
- Coriolis@µ (n=12): 10 min sampling - 300 L/min. Analysis by specific method developed by the RNSA Laboratoire.
- "Scotch test" (n=7) then specific coloration and microscopic observation.

Results

Coriolis@µ: high concentration of moulds as *Alternaria*, *Cladosporium* and *Stachybotrys* in 3 offices and in their specific roof spaces.

"Scotch test": Only *Stachybotrys* presence in the most contaminated roof space.

→ The confirmation of the presence of *Stachybotrys chartarum* is very important because this mold is notorious as a **mycotoxin producer** that can cause human mycotoxicosis and is one of the causes of the "**sick building syndrome**". It is associated with adverse human health effects (nausea, nose bleeds, dizziness, respiratory troubles..) from which employees complained.



Conclusion

Coriolis@µ makes it possible to reveal the presence of *Stachybotrys chartarum* in the offices when traditional method was not conclusive. Aggressive actions to correct moisture problems have been undertaken immediately. Sampling carried out 6 months later showed the absence of the *Stachybotrys* in contaminated building.

The RNSA Laboratoire expertise for the sampling with **Coriolis@µ** and the identification by optical microcopy had ensured to solve this problem of **environmental health** in offices.

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