Atmos. Chem. Phys. Discuss., 11, C15367–C15368, 2012
www.atmos-chem-phys-discuss.net/11/C15367/2012/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Annual distribution of allergenic fungal spores in atmospheric particulate matter in the eastern mediterranean; a comparative study between ergosterol and quantitative PCR analysis" *by* N. Lang-Yona et al.

Anonymous Referee #3

Received and published: 15 February 2012

General comments: The reported work of N. Lang-Yona et al. collects PM10 samples over the course of an entire year in Rohovot, Israel and characterises total and specific airborne fungal spores while comparing two analytical techniques (qPCR and ergosterol analysis). The structure of the manuscript is clear but the description of the methods in terms of quality control measures taken, needs expansion which should ultimately lead to a greater confidence in the reported findings. Overall worth publishing once further expansion regarding quality control has been performed and specific comments below have been addressed.

Specific comment: 1. Sampling was performed using a High-volume sampler (ECO-HVS3000) operating at a flow rate of 67.8m3h-1 and all sampling periods were 72h except for two cases. While it is appreciated that enough mass of PM needs to be collected to perform all assays, consideration by the authors needs to be given to the possibility of filter saturation and the effects of microbial growth may play on collection filters sitting in a sampler for a duration of 3 days. Perhaps the authors could address the issue of the possibility of filter saturation and describe consideration made or reasons why 72 h sampling period was chosen. The data has been normalised according to the volume of air sampled e.g ng m-3 have the authors considered a relative concentration to assess variability i.e. mass of analyte per mass of PM.

Specific comment: 2. Quality Control: Accuracy, precision, and MDLs associated with the sampling method used in the current study, in conjunction with qPCR detection methodologies, perhaps could be further investigated rather than referencing a study based on indoor air that uses a wipe sampling methodology i.e. Yamamoto et al. (2011). For example did the authors perform spiking experiments to investigate recovery efficiencies from the filter substrate used?

Specific comment: 3. Samples were averaged across individual seasons however it is unclear as to what months/samples were considered to be during what season until the reader reaches Fig. 2, in which case the reader does not encounter until after the reading of Table 2, 3 and Fig.1. A definition of the seasons could be included earlier in the text perhaps in the Material and Methods section. On that note, with regards to the seasonal classification method used how relevant is it to the geographical positioning of Rohovot, Israel.

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 28689, 2011.

ACPD

11, C15367–C15368, 2012