MSQPCR sampling: a comparison between levels found in the UK and levels found in Ireland

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ABSTRACT
The potential harmful effects of exposure to moulds in inhabited buildings were recognised from biblical times through to the present day. Mould has been associated with a wide range of respiratory health effects including asthma development, asthma exacerbation, current asthma, respiratory infections, upper respiratory tract symptoms, cough, wheeze and dyspnoea.

The requirement for a method to measure the mould levels in indoor environments in order to determine whether the levels found can be detrimental to health is obvious. A number of agencies using a variety of different techniques have put forward proposed limits and levels to measure fungal contamination in indoor environments; however none of these is universally accepted. The most recent development has been that of MSQPCR analysis for fungal species. The aim of this research is to add to the current body of knowledge on MSQPCR by comparing MSQPCR levels found through indoor air quality surveys in Ireland with MSQPCR levels found in the UK.

The majority of the samples taken for the Irish dataset were taken from office environments, while all of the samples for the UK dataset were from domestic dwellings. Statistical analysis suggests that the concentration and diversity of mould species in the UK study was more prominent than that in the Irish study. This may indicate that mould levels in domestic dwellings are higher than mould levels in office environments.

Based on this analysis it is impossible to say whether MSQPCR samples taken in the UK differ significantly from MSQPCR samples obtained in Ireland. Further research will have to be undertaken to address flaws in survey design and analysis which were demonstrated in this study.

With further research on this topic, an environmental index similar to the one created in the USA for domestic dwellings could be created for Ireland and the UK. An index of this kind would be an excellent tool for individuals carrying out indoor air quality investigations in environments which may contain mould growth.