

University of Macau

Abstract

EXPERIMENTAL INVESTIGATIONS AND
SIMULATIONS OF INDOOR AIR QUALITY FOR WET
MARKET

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The recent epidemic of the highly pathogenic H5N1 Avian Influenza in poultry in many countries is unprecedented and has raised an alarm on the hygiene of the wet markets. As stated by WHO, direct contact with infected poultry, or surfaces and objects contaminated by their faeces, is presently considered as the main route of human infection, therefore, the poultry section in the wet market where the live poultry are stored, slaughtered and sold are having the high risk in health threat to the public. Not only the poultry section, due to the mixed ventilation inside the market, the other sections such as the meat section or the vegetable section may also have the risk of being cross-contaminated. In order to have better hygiene and to prevent the potential health threat from different kinds of diseases, good indoor air quality and ventilation for the markets should be obtained. However, overall evaluation of the indoor air quality for the markets in Macau has never being conducted. This study has investigated the existing situation of the indoor air quality of one of the wet markets in Macau. It was found that the poultry section is having the worst indoor air quality among the whole market and there is potential risk of spreading disease within the poultry section. Strategy of modifying the HVAC system to a three-level negative pressure system has been suggested for obtaining better hygiene and environment for both the existing and new wet market.