

# RISK FROM INHALED MYCOTOXINS FROM MOLD-INFESTED PRODUCE

C.Y. Chan<sup>1</sup>, C.R. Robbins<sup>1</sup>, P. Fallah<sup>2</sup>, B.D. Hardin<sup>1</sup>, and B.J. Kelman<sup>1</sup>

<sup>1</sup>*Veritox, Redmond, USA*

<sup>2</sup>*Indoor Environmental Hygiene Laboratory, Redmond, USA*

Email: [cchan@veritox.com](mailto:cchan@veritox.com)

Despite the findings of learned bodies, there continue to be concerns throughout North America and Northern Europe about mycotoxins from mold spores in indoor environments. We developed preliminary data on the level of spores generated from dropping moldy lemons into a wastebasket, associated maximum potential dose of mycotoxins, and risk of adverse effects from inhaling mycotoxins during this activity. Five lemons were inoculated with *Penicillium* and grown in closed containers until >50% of the surface was covered with mold. In each trial, one lemon was dropped from a height of 180 cm into a wastebasket. Aerosolized spores were measured 3 minutes later at a distance of 230 cm from the wastebasket and a height of 180 cm. Air samples were collected using Zefon cassettes and analyzed for the presence of *Penicillium* spores. The mean level of *Penicillium* spores collected from five trials was 286,755 spores/m<sup>3</sup>. Assuming that spores contained the highest concentration of mycotoxins per spore ever reported for a spectrum of mycotoxins, exposure modeling indicates that the maximum possible dose that could be inhaled in 24 hours was lower than the comparison dose by a factor of 10<sup>2</sup> (aflatoxin B<sub>1</sub>) to 10<sup>5</sup> (fumitremorgen) except for satratoxins G & H. Even at these relatively high spore levels, our data indicates that the spore levels measured and potentially-associated doses of mycotoxin are not sufficient to cause adverse effects.