Laboratory Decontamination Using Low-Concentration Hydrogen Peroxide

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Remediation and recovery efforts after a release of *Bacillus anthracis* (*B. anthracis*) spores may be difficult and costly. In addition, sophisticated decontamination technologies may be focused on critical resources, potentially leaving small businesses, homeowners, and laboratories without immediate remediation options. To address this gap, this study evaluated the efficacy of relatively low levels of hydrogen peroxide vapor (HPV) delivered from an off-the-shelf house humidifier for the inactivation of *Bacillus* spores within two laboratory settings.

A previous study reported successful HPV decontamination within a household setting when *Bacillus atrophaeus* var. *globigii (Bg)* (surrogate for *B. anthracis*) was inoculated on carpet and galvanized metal coupons. This update will present results from the low-level HPV decontamination in a typical laboratory setting, and inside a wind tunnel, where both the laboratory and the closed-loop wind tunnel had previously been experimentally contaminated with surrogates of *B. anthracis* such as *Bg* and *Bacillus thuringiensis* subsp. *kurstaki* (*Btk*). To perform the tests, a section of a laboratory was isolated using plastic and decontaminated to evaluate the effectiveness of this method; and, the wind tunnel was closed during decontamination and air flow was static.

Decontamination efficacy results will be presented for both the traditional laboratory setting and the wind tunnel. These results, together with those from the household decontamination study, can be used to develop and recommend effective commercial off-the-shelf remediation strategies.