

Novel Inactivation of the Causative Fungus of White Nose Syndrome with Methoxsalen and Ultraviolet A Light

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Abstract

White Nose Syndrome (WNS) is a newly recognized disease responsible for the rapid mass destruction of the North American bat populations. This study addressed the novel inactivation of fungal spores from *Pseudogymnoascus destructans*, the causative agent of WNS, using ultraviolet A (UVA) light at 365nm and methoxsalen, a photosensitizer from a family of compounds known as furanocoumarins. *Penicillium crustosum*, an environmental fungus, was studied as a comparator.

Spore suspensions were soaked in specific concentrations of methoxsalen and subsequently exposed to UVA light. The plates were examined for both spore inactivation and resultant inhibition of colony growth. The results demonstrated that methoxsalen + UVA was an effective method for inactivating fungal spores of *P. destructans* and *P. crustosum*. The importance of this study is the potential control of WNS and other destructive environmental fungi.