

Application of the Enviro-Mist Method to Cannabis Flower: Nondestructive Sample Remediation for Microbial Contamination

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Abstract

The purpose of this study was to determine the efficacy of Enviro-Mist method directly applied to cannabis products. Cannabis Flower was inoculated with *Aspergillus flavus*, *Aspergillus fumigatus*, *Aspergillus niger*, *Aspergillus terreus*, *Escherichila Coli* Shigella Spp, *Salmonella*, *Staphylococcus aureus*, yeasts and molds and subsequently treated using lonized Hydrogen Peroxide (iHP) to the dried material. Dielectric Barrier Discharge technology was used to enhance decontamination and increase aeration. Measurements were taken on moisture, residual solvents, potency and microbial load. A non-Inoculated sample was used as base control for potency, whereas an inoculated sample was used to show base line for microbial testing. Visual and organoleptic characteristics were not adulterated. Potency results of the cannabis plant were not affected. No additional residual solvents were found. The process was successful in complete remediation of all microbial contaminants.

1. Introduction

Remediation or decontamination can be found in Title 310 Oklahoma State Department of Health Chapter 681.¹ A Harvest Batch that fails a microbial testing must be remediated, decontaminated, or disposed of in accordance with state law.¹ Harvest batches are currently limited to 10 lbs.¹ The ability to remediate or decontaminate microbial contamination is of paramount interest to all licensed grows in the State of Oklahoma, of which there are 7,364².