



Developer of Premium Indoor Grow Solutions



# Eliminating Airborne Threats in Cannabis Production



## THE UNSEEN THREAT TO SUCCESSFUL CANNABIS PRODUCTION

Airborne molds and spores can launch up to 8 feet, traveling at a speed of 80 feet per second<sup>1</sup>, with a high potential for damaging vulnerable cannabis crops in a matter of seconds. Pathogens are extremely difficult to contain unless precautions are taken. Once they've entered a facility, they can wind up in every room. By deploying Bluezone 420 into your grow facility, you can mitigate these environmental threats that can be detrimental to the quality of your cannabis and your potential for high profitability.

### This document will explore:

- Bluezone - a revolutionary, military-developed technology that is designed specifically to address airborne contaminants
- The set of circumstances that have created airborne contaminant issues
- Additional measures cannabis farmers should take to ensure maximum revenue



# INDUSTRY THREATS TO SUCCESS

There are several factors that amplify the risk in industrial cannabis production facilities. Together, they create a perfect storm of threats to the success and well-being of those facilities and their sizeable investment.



## The Key To Profits

Losing just one crop due to pathogen contamination means a catastrophic reduction in your net profits.

---



## Variability in Consumer Health

A study conducted by UC Davis<sup>5</sup> found multiple strains of mold (including *Aspergillus*) and bacteria (including salmonella) in cannabis. These pathogens put cannabis users who are immunosuppressed at risk for fatal complications.

---



## Lack Of Regulation

Because cannabis is not a federally legal substance, there is a lack of regulation and consistency and quality among growers. Mold has a huge impact on the overall quality of the product and the consumer experience.



Before Bluezone™

After Bluezone™

# BLUEzone®

## FEWER PATHOGENS, ZERO DRAWBACKS

Bluezone 420 is a breakthrough technology that was developed using a revolutionary military-grade technology to eliminate pathogens where cannabis is grown, harvested, and stored.

Bluezone Model 420's air purification system rapidly draws in air to produce a comprehensive elimination of mold and bacteria. Air passes through a chamber that contains four ozone-producing UV bulbs. This combines two of the best available defenses: UV light to irradiate pathogens and ozone to reduce VOCs and odors. This combination maximizes the kill rate per pass through for a unique and effective result. Additionally, because the technology is contained within the Bluezone 420 system, it protects workers and plants from any potential harm.





## BLUEZONE'S PROVEN RECORD IN EACH PHASE OF GROWTH

### The Vegetation Room

Plants experience most of their growth in the vegetation stage, making them most vulnerable to pathogens. A plant that is affected early in its lifecycle will experience an irreversible decline in its growth potential.

Bluezone tested a vegetation room. The room was tested both before and after Bluezone operation, with samples representing both bacterial and microbial loads. Prior to Bluezone, samples indicated over 250 CFU/m<sup>3</sup> (colony forming units per cubic meter) of bacterial load and over 50 CFU/m<sup>3</sup> of fungus. After a week of operation, Bluezone reduced both bacterial and microbial load to near zero.



*Before Bluezone*

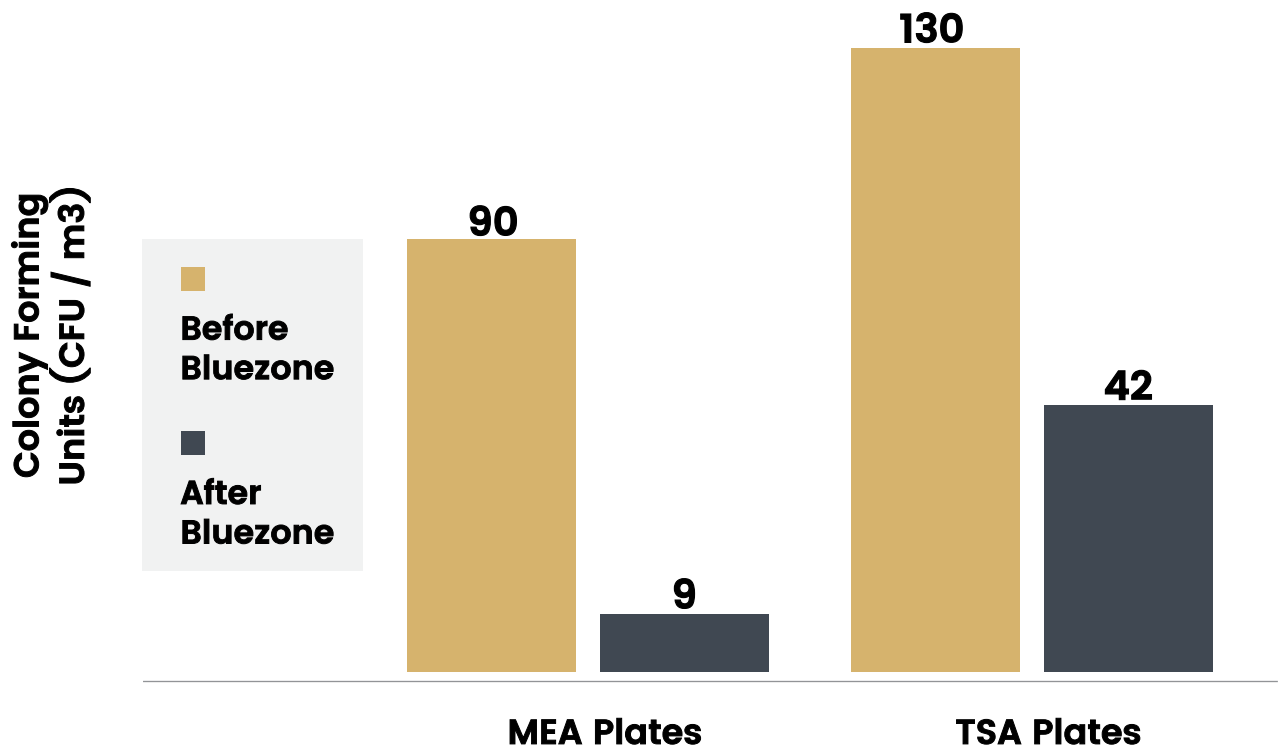


*After Bluezone*

## The Flower Room

If an infection occurs in the flowering stage, growers will need to destroy infected plants in order to stop the spread of disease, and potentially harvest early – avoiding further spread of pathogens but losing out on yield, potency and higher profits.

### Microbial Counts Bloom Room After One Day Test

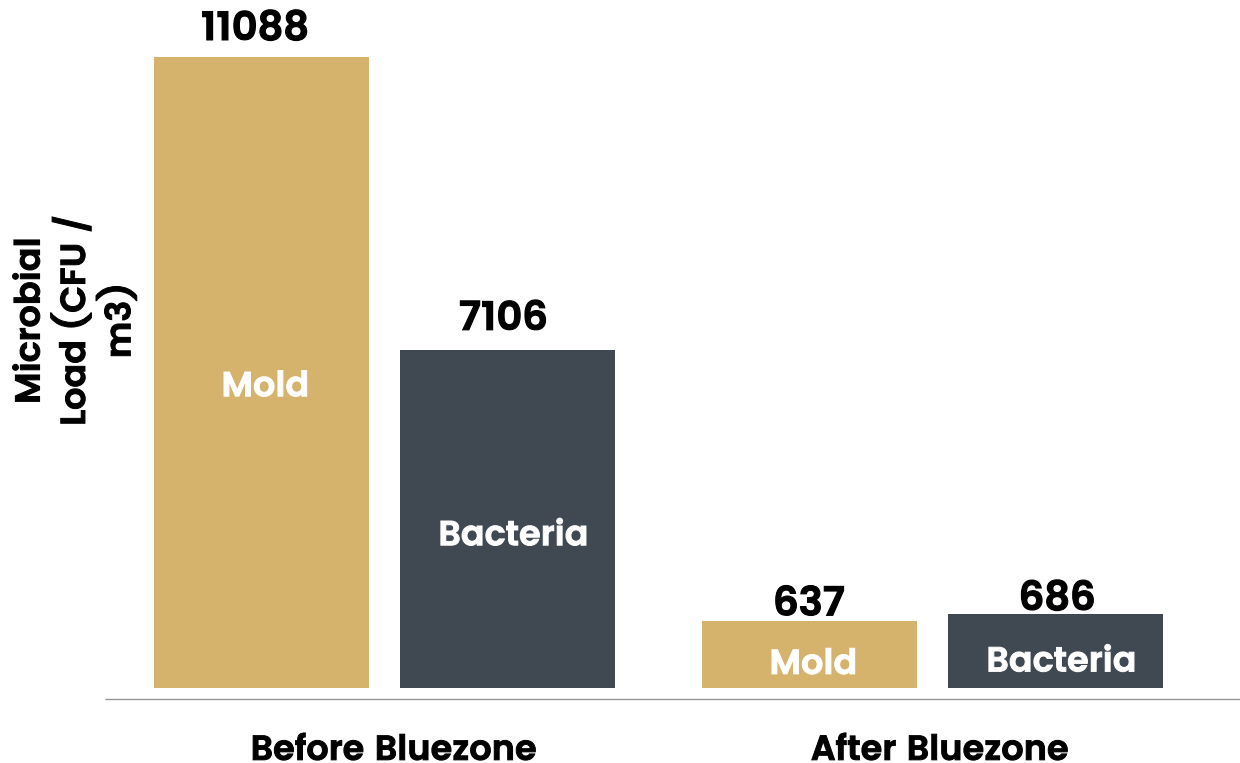


After just one day of operation in a flower room, Bluezone reduced bacterial load from 130 CFU/m<sup>3</sup> to 42 CFU/m<sup>3</sup>, and fungal load from 90 CFU/m<sup>3</sup> to 9 CFU/m<sup>3</sup>. VOC concentrations declined 6459 ppm to 51 ppb, creating a safer environment for plants and workers.

## The Trim Room

The worst-case scenario for any cannabis grower is finding pathogens in the trim room. This means large financial loss.

### Microbial Load In Trim Room Before and After Bluezone



Bluezone was tested in a 7,900 square ft trim room. Before testing, the trim room registered over 10,000 CFU/m<sup>3</sup> of pathogens. After just four days in operation, Bluezone achieved over a 90 percent reduction in both bacteria and fungi.

There are no filters to change, no toxins to worry about, and the only maintenance involves replacing the UV bulb once a year.



# AN OPPORTUNITY FOR ENTERPRISING PRODUCERS

Benefits of employing a proven and measurable growth system that includes a strong Environmental Threat Mitigation plan include:

- A predictable profit margin and production rate
- Dependable supply for buyers, leading to strong and lasting relationships
- Consistency in flavor and potency
- Reduced potential for harm to the end-user

The Bluezone 420 is only one piece of a comprehensive cannabis profit optimization. Agrify™ leverages this purification system as a part of our turnkey cultivation solutions designed to optimize production at minimal cost. Our integrated grow solutions use the best technologies available today to help your cannabis business thrive.



## Sources:

- <sup>1</sup> <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0003237>
- <sup>2</sup> <https://www.cannabisbusinesstimes.com/article/colorado-department-of-revenue-releases-average-market-rates/>
- <sup>3</sup> <https://cannabusinessplans.com/much-cost-grow-cannabis-indoor/>
- <sup>4</sup> <https://www.cannabisbusinesstimes.com/article/colorado-department-of-revenue-releases-average-market-rates/>
- <sup>5</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4206797/>
- <sup>6</sup> [https://www.filtrete.com/3M/en\\_US/filtrete/home-tips/full-story/~how-to-reduce-dust-mites/?storyid=75200b03-7977-4621-a248-b5bc0d4e1ae2](https://www.filtrete.com/3M/en_US/filtrete/home-tips/full-story/~how-to-reduce-dust-mites/?storyid=75200b03-7977-4621-a248-b5bc0d4e1ae2)
- <sup>7</sup> [https://www.jacionline.org/article/S0091-6749\(54\)00080-2/fulltext](https://www.jacionline.org/article/S0091-6749(54)00080-2/fulltext)
- <sup>8</sup> <https://www.ncbi.nlm.nih.gov/pubmed/20573124>
- <sup>9</sup> <https://www.cannabisbusinesstimes.com/article/the-perfect-grow-environment/>
- <sup>10</sup> <https://www.ncbi.nlm.nih.gov/pubmed/23538847>
- <sup>11</sup> <https://www.sciencedaily.com/releases/2019/09/190918100230.htm>
- <sup>12</sup> [https://www.epa.gov/sites/production/files/2014-08/documents/ozone\\_generator.pdf](https://www.epa.gov/sites/production/files/2014-08/documents/ozone_generator.pdf)