



Innovative Solutions has established themselves as leaders in the Cannabis industry since 2013. We have helped many of the largest cannabis companies in the world protect their cannabis cultivation areas -- enabling them to grow industry best clean medicinal cannabis.

This document details some of the successes and results their customers have achieved using the Innovative Solutions ProGuard Sanitization Technology.

## THE GAME CHANGING PROGUARD SANITIZATION TECHNOLOGY IS BEING USED IN MANY OF THE WORLD'S LARGEST CANNABIS CULTIVATION FACILITIES

- ProGuard reduces molds, mildews and bacteria CFU's with an Organic process.
- Customers are using ProGuard to sanitize their facilities and improve the quality and yield of their crops
- Growers are using ProGuard in cultivation, Dry & Cure, Trim, and Processing areas
- ProGuard is used in both Indoor & Greenhouse facilities
- Canadian Customers include many ACMPR licensed producers
- US Customers are located in over 15 states including AZ, CA, CO, CT, IL, MA, NH, NM, NV, OR, and WA

### CASE STUDY

#### Large Colorado Indoor Grower – Loosing 12% of Crop Failing Regulations

A large Colorado Grower was failing about 12% of their crop with high CFU levels that did not pass the regulations. A test was set up comparing the product grown in a room treated with the ProGuard Sanitization Technology with product grown in a non-treated control grow room

The ProGuard Sanitization Technology demonstrated the ability to effectively clean Cannabis grow rooms of biological contaminants. Visually, the flowers harvested from the grow rooms treated with ProGuard looked much better than flowers harvested from the control rooms without the Sanitization Technology. Harvested flowers from the grow rooms using the ProGuard Sanitization had no evidence of bud rot or mold growing on the product, and they passed the Colorado Microbial Contaminant Regulations.

By reducing the CFU's in the grow rooms and maintaining a cleaner growth environment, this allows the buds to form cleaner with less CFU's. This is extremely important as many commercial growers have had trouble consistently meeting these standards without post-production sterilization techniques such as irradiation. No negative effects were observed on plant growth or with the terpenes or CBDs on the finished product. The post test results are shown below with CFU reductions from 95-99%:

**Innovative Solutions: ■Indoor Grow ■Air Quality ■ Food Safety ■ Energy Savings**

| Problem                                  | Solution   |
|--|--|
| Issue with Yeast & Mold CFU's            | <b>ProGuard Sanitization Technology was installed in Grow, Dry &amp; Cure rooms.</b> |
| Failing 12% of their Microbial CFU tests | Microbial CFU's were dramatically reduced<br>Passed 100% of Microbial CFU tests      |

| Analytes       | Unit  | UNTREATED*                        | TREATED**                          |           |
|----------------|-------|-----------------------------------|------------------------------------|-----------|
|                |       | w/o Technology<br>Microbial CFU's | with Technology<br>Microbial CFU's | Reduction |
| Yeast/Molds #1 | cfu/g | 29,000                            | 200                                | 99%       |
| Yeast/Molds #2 | cfu/g | 20,000                            | 1000                               | 95%       |
| Yeast/Molds #3 | cfu/g | 65,000                            | 1300                               | 98%       |

**UNTREATED\*** ProGuard Sanitization Technology was NOT used and **FAILED** the CFU lab test regulations.

**TREATED\*\*** ProGuard Sanitization Technology WAS used in Veg, Flower, Dry & Cure rooms and **PASSED** the CFU lab test regulations.

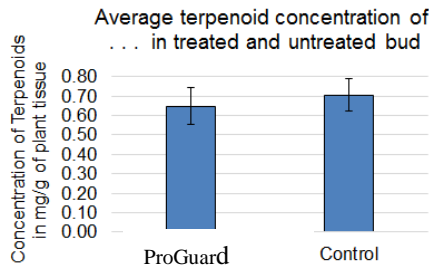
**After installing ProGuard Sanitization the grower has passed 100% of their Microbial CFU tests**

### Impact of ProGuard Sanitization Technology on Cannabis Terpenes and THC

We have conducted considerable research to determine if the ProGuard Sanitization technology has any impact on the Cannabis Quality, THC levels, or Terpenes. Every study both qualitatively and quantitatively shows that there is no significant impact using this technology on the Cannabis Quality. The results of several studies are shown below:

The purpose of this test was to determine if buds treated with ProGuard (PCO) could cause a decrease in the terpenoid levels, including THC, resulting in the change of smell. The results show that there was No Impact on terpenes.

The purpose of this test was to determine if buds treated with Photo Catalytic Oxidation (PCO) could cause a decrease in the terpenoid levels, including THC, resulting in the change of smell.



When comparing the two datasets, it was determined that **no statistically significant variance** was found in terpenoid levels between the product treated with PCO and untreated product.

**Testing completed by:**  
**An Innovative Solutions Customer**

“It can be concluded that the ProGuard Technology has no negative side effects on terpenes when used to treat dried flowers.” Dr. H PhD InPlanta Biology

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