Innovative Solutions

ProGuard

SANITIZATION TECHNOLOGY

Thailand Authorized Importer/Distributor

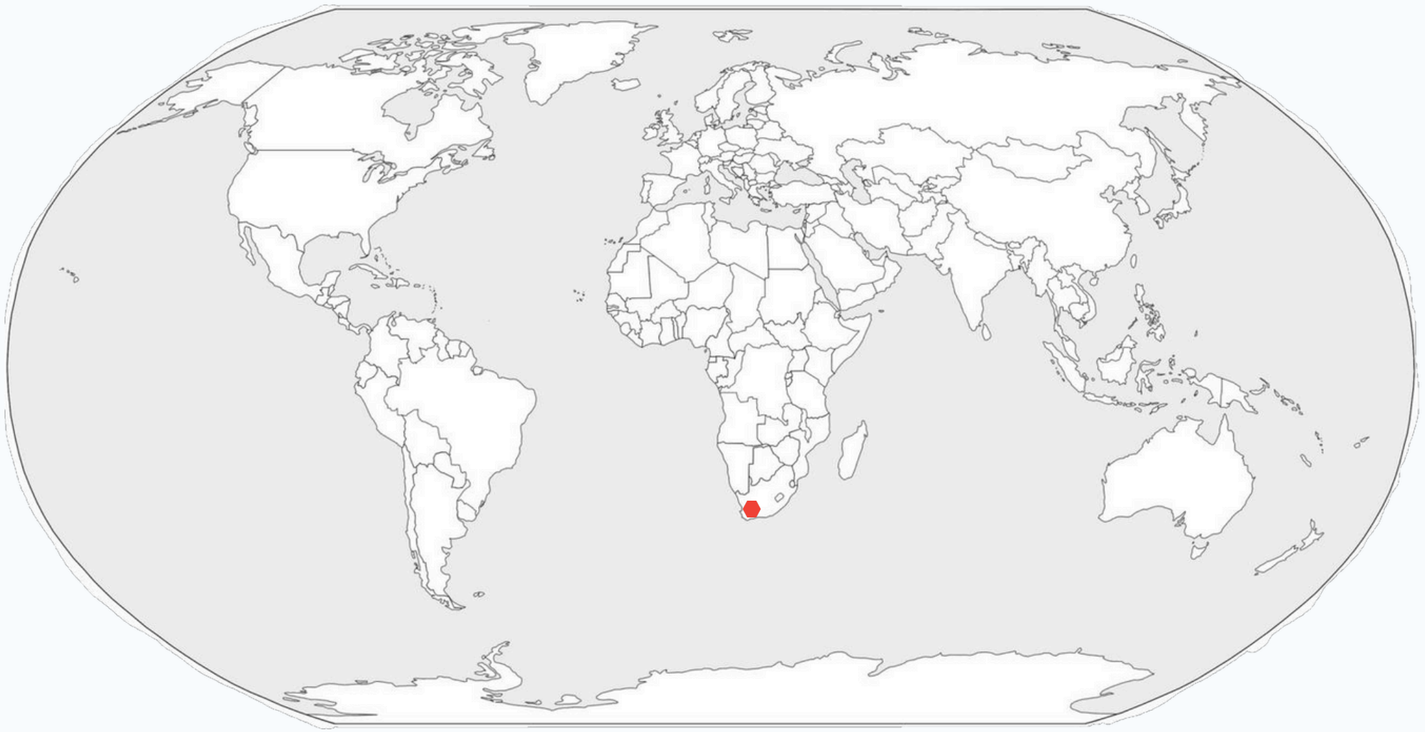
GREENGROWS (THAILAND) CO., LTD.

contact@greengrows.com

www.greengrows.com

Projects in Process

- United States
- Canada
- Israel
- Australia
- Columbia
- Portugal
- Puerto Rico
- Netherlands
- Spain
- Switzerland
- Thailand
- South Africa
- UK
- Macedonia
- France



- Indoor Grow/ Greenhouses
- Food Safety
- Medical Facilities
- Bio Tech Clean Rooms
- Office Buildings

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Solves Problems for Indoor/Greenhouse Cannabis Growers

ProGuard Seeks & Destroys

- Molds
- Mildew
- Bacteria
- Viruses
- Reduce CFU's to meet GACP and EU GMP requirements

ProGuard Does Not Impact Terpenes

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ProGuard Protects Post Harvest Areas

Protects:

- Post Harvest areas
- Trim rooms

- Packaging
- Extraction
- Corridors
- Storage
- Labs

SAFE for Humans and Plants

Does Not Impact Terpenes

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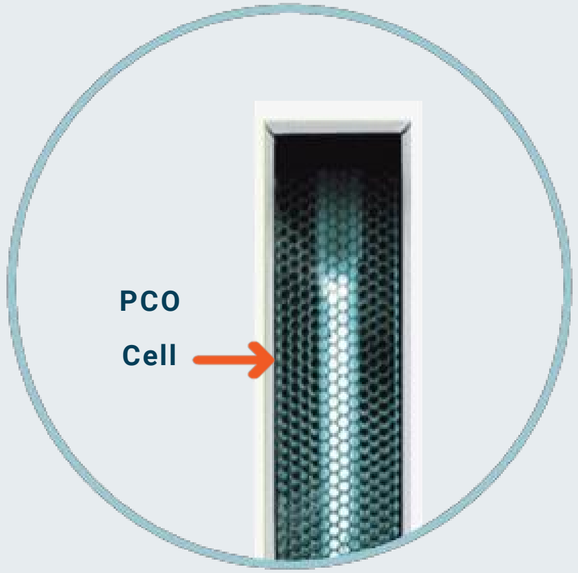
ProGuard SanitizationProcess

Photo Catalytic Oxidation



Uses a **catalyticprocesstocreateadvanced oxidation AND high energy ionization** tomanage contaminates in the air and surfaces

*Originally developed by NASA

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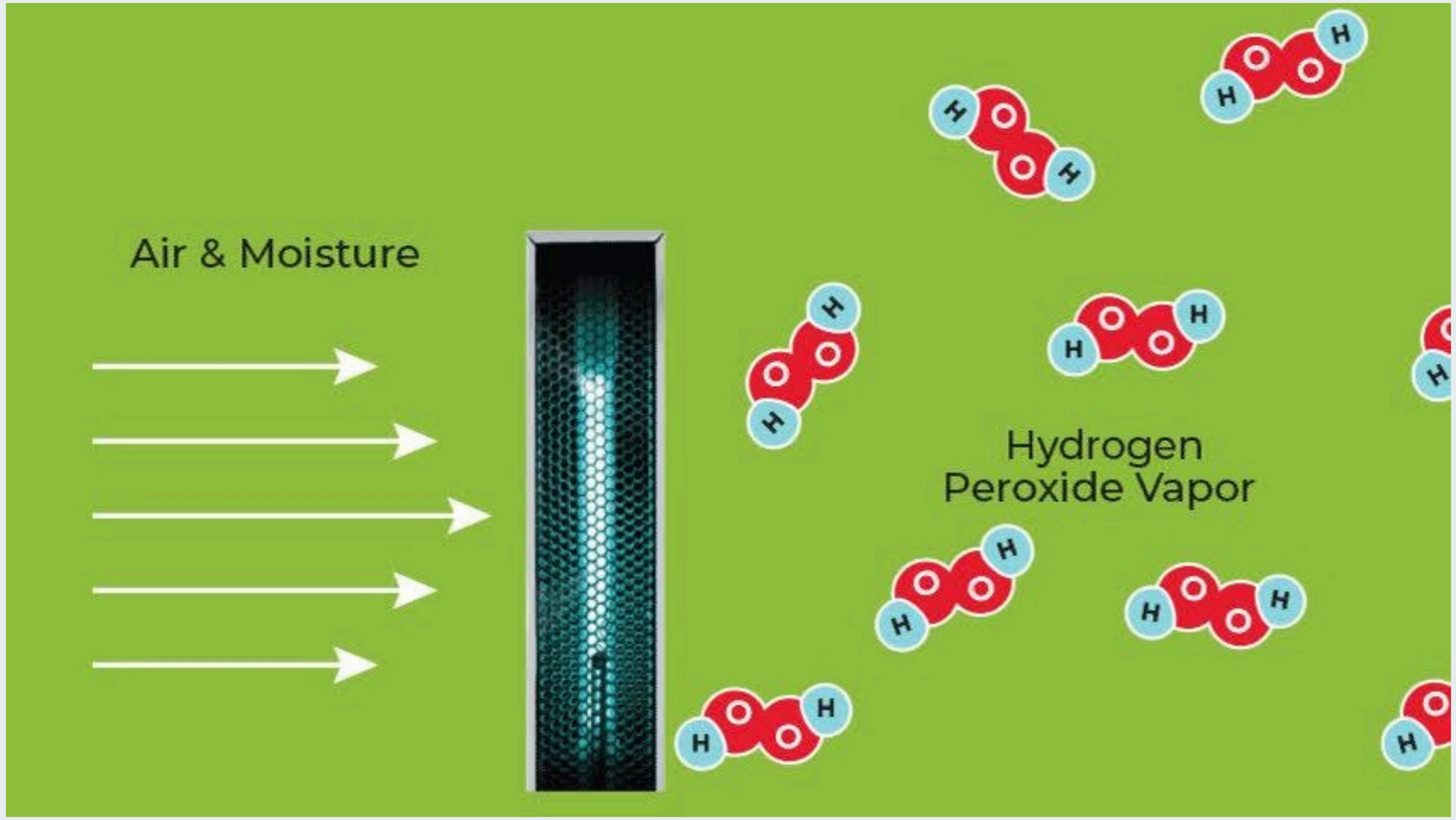
ADVANCED (ARC-PCO) PROCESS

Advanced (ARC-PCO) Process **Creates Millions** of Ionized H2O2 Clusters **Eliminating** Mold, Mildew, and Bacteria



ProGuard BPI Sanitization Process

Our advanced sanitization technology uses Bi-Polar Ionization (BPI), an ionization process that ensures highly effective air sanitization.

As our second layer of defense, BPI is specifically engineered to excel in high-humidity environments, making it ideal for cannabis cultivation and other challenging environments.

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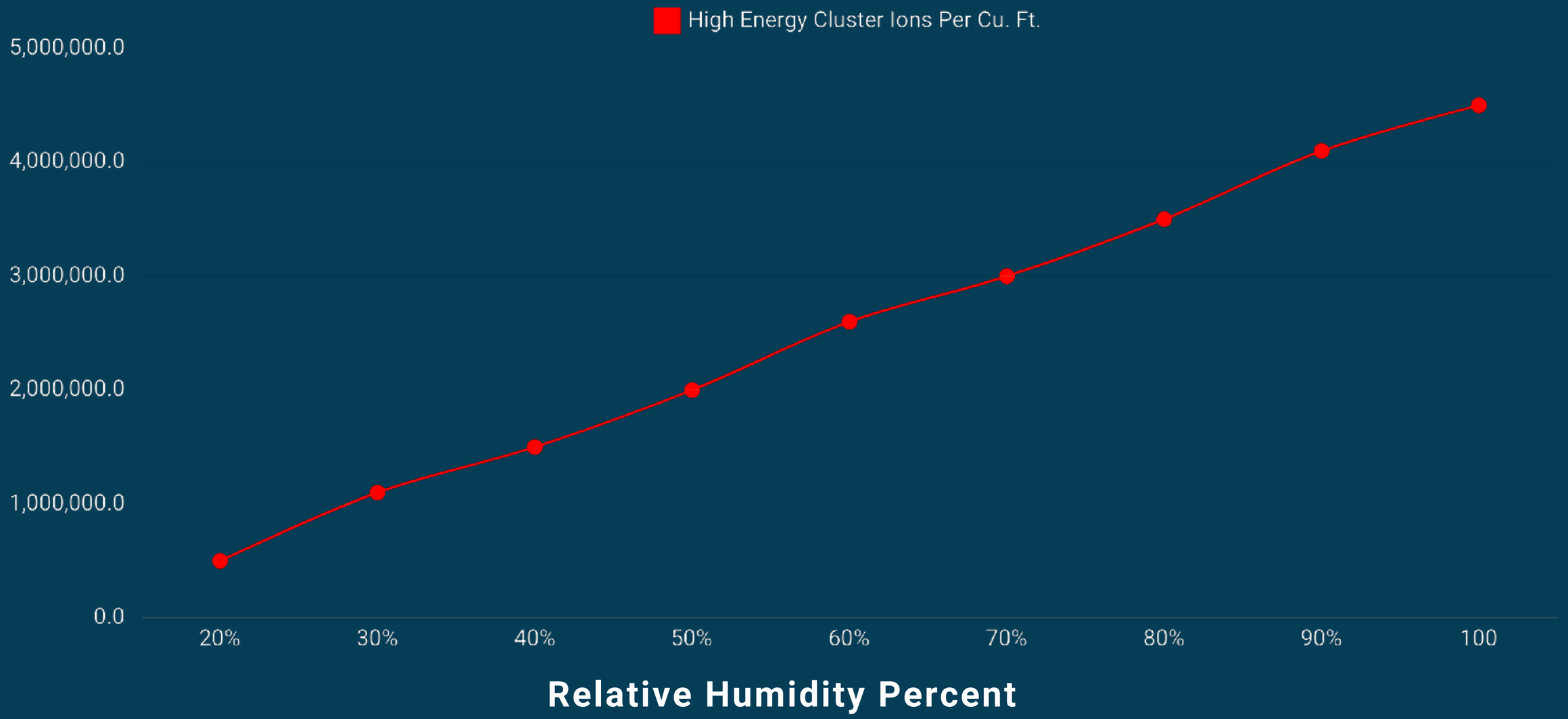
ProGuard **Performance** Related to **Humidity**



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ProGuard / **BPI Technology-** NORMI STUDY

The **National Organization of Remediators** and Mold Inspectors, **(NOR MI)** trains mold and indoor environmentalprofessionals, providing over 14 certifications to meet licensing laws.

CONFIGURATION	NEGATIVE IONS/C3CM	POSITIVE IONS/C3CM
Test 1 Competitive Brand PCO	1 50 ,0 00	6 ,0 00
Test 2 Competitive Brand PCO	1 40 ,0 00	24,000
Test 3 ProGuard Brand ARC-PCO & BPI	**800,000**	**1,200,000**

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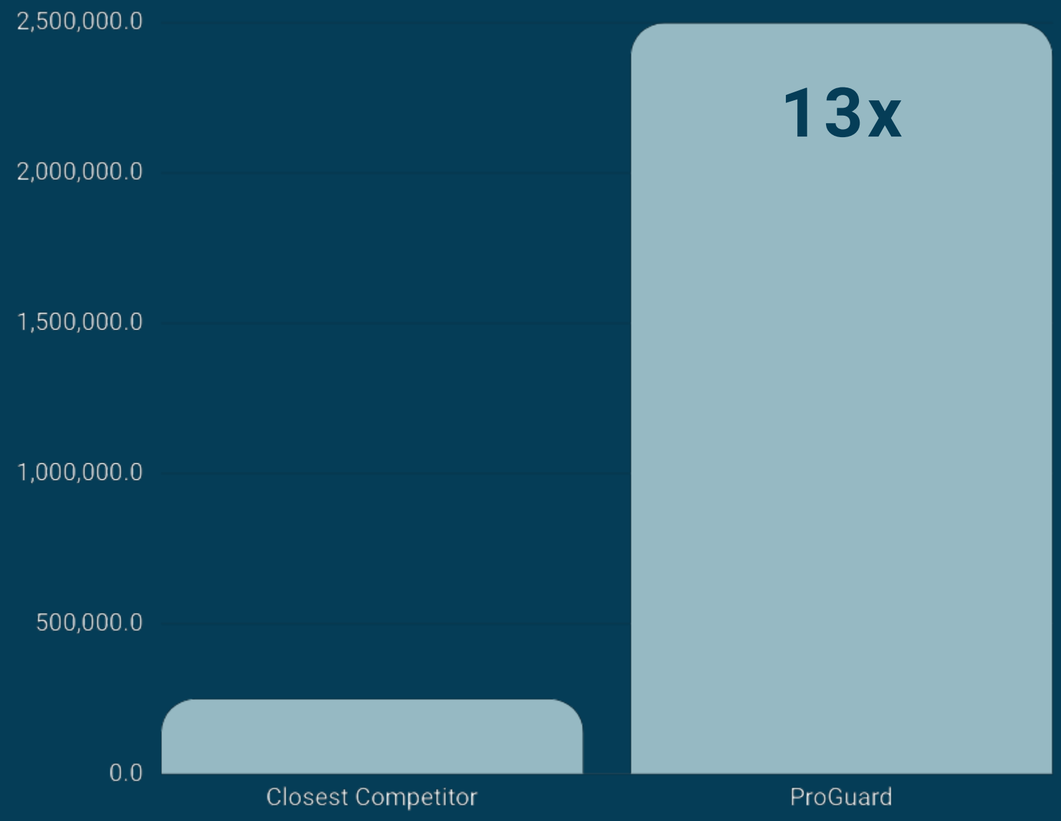
ProGuard/**BPI Technology** Output Comparison

Ion Output



Tested by **Third Party Lab**

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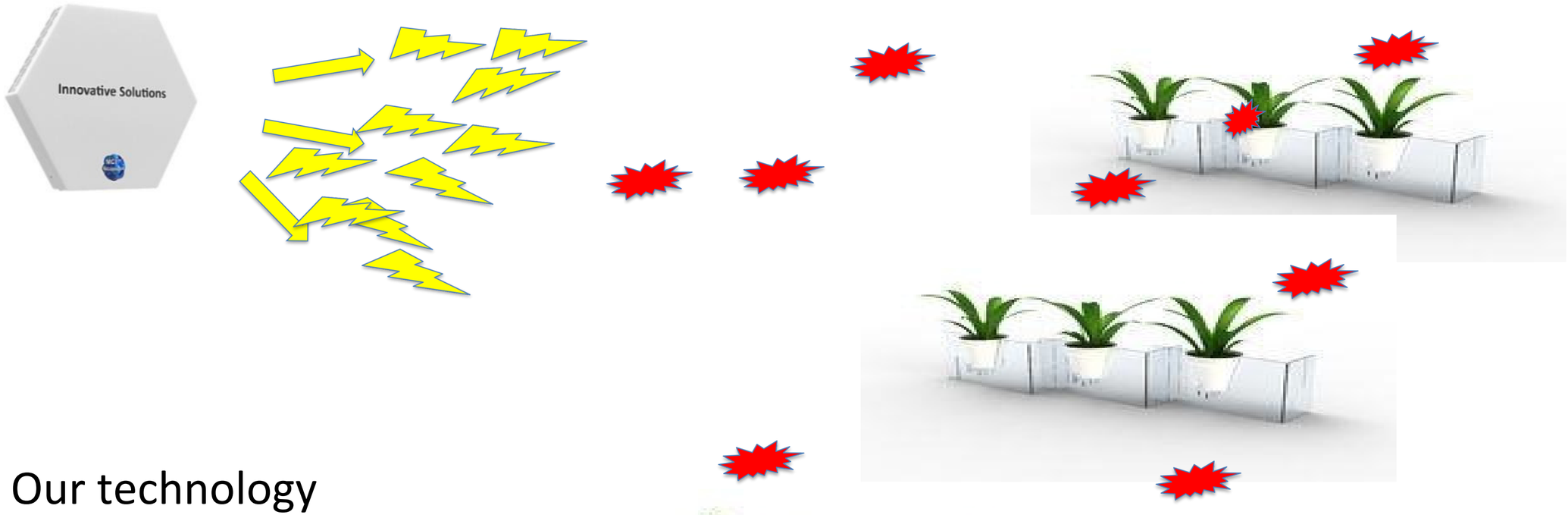
ProGuard Sanitization Uses An “ACTIVE” Process



Our technology **seeksout and attacks** the pathogens at thesource, **protecting the entire room** toreduce outbreaks.

Sending powerful purification directly to the plants, pots, benches etc. to control pathogens.

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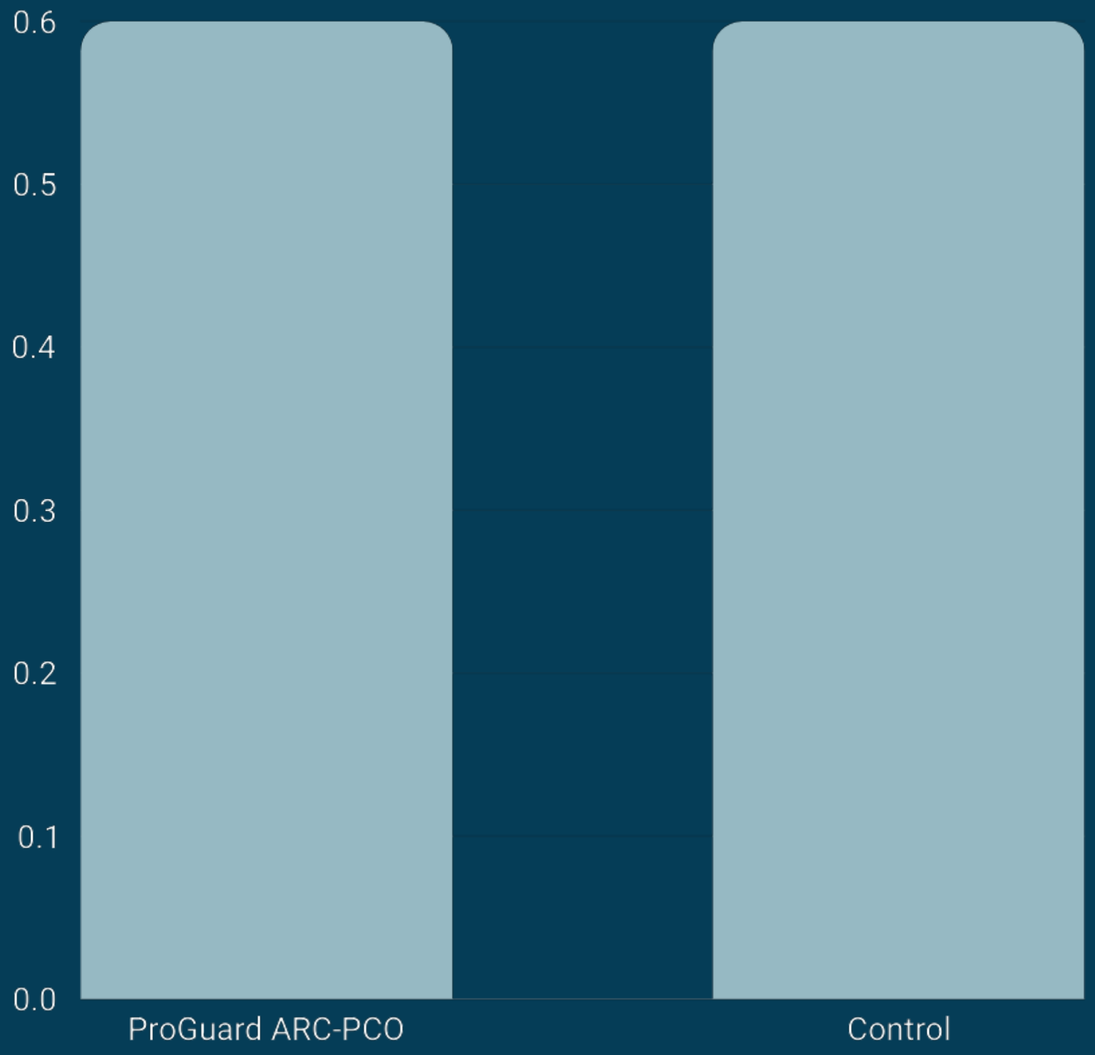
“PASSIVE” technologies require the molds, bacteria to be delivered to the purifier

Passive technologies are only effective in small areas close to the machine **leaving the majority of the room vulnerable and unprotected**.

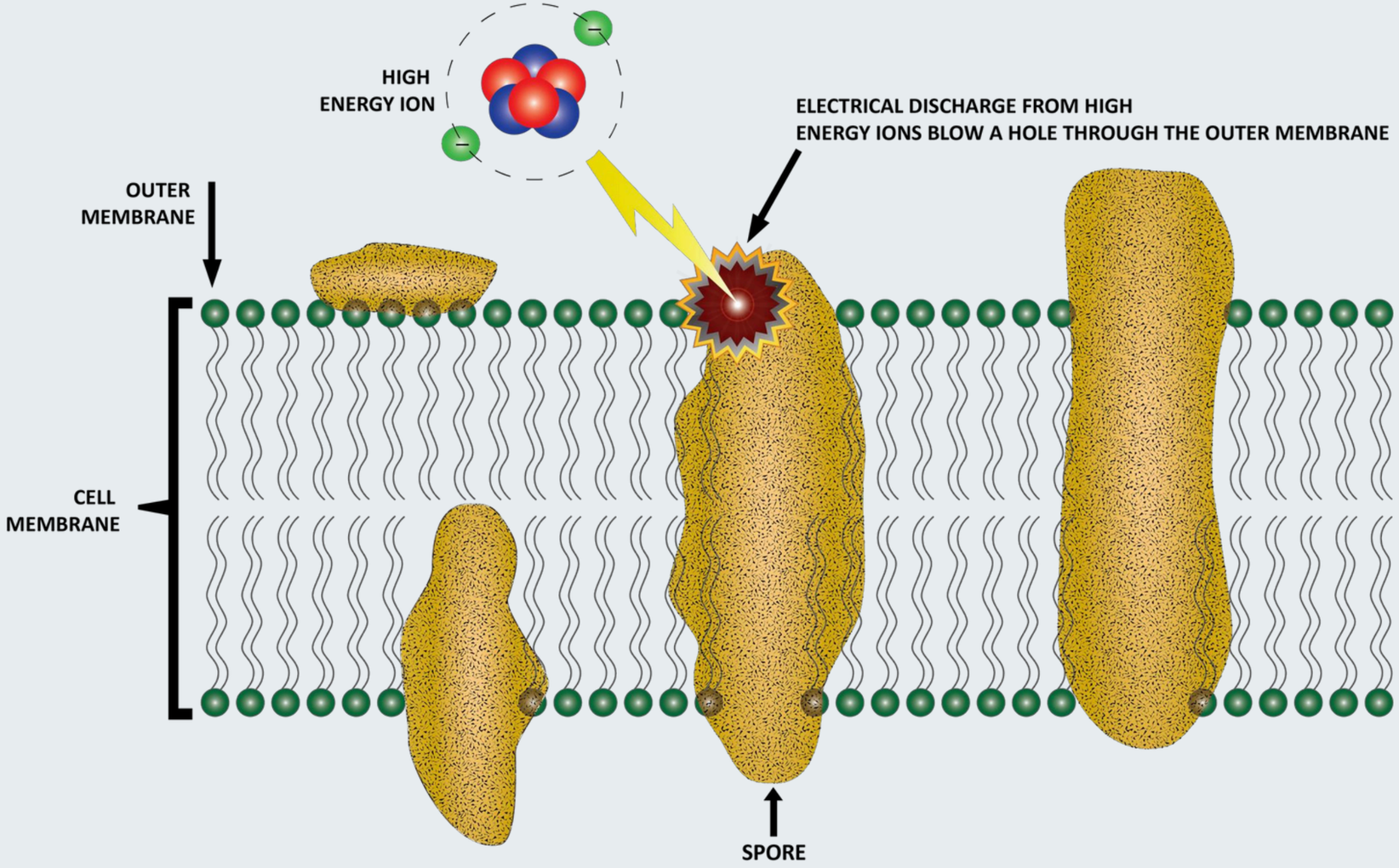
Terpenoid **Biossay** Test



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

*Testing completed by: An Innovative Solutions Customer

How The **ProGuard BPI Ionization** Works



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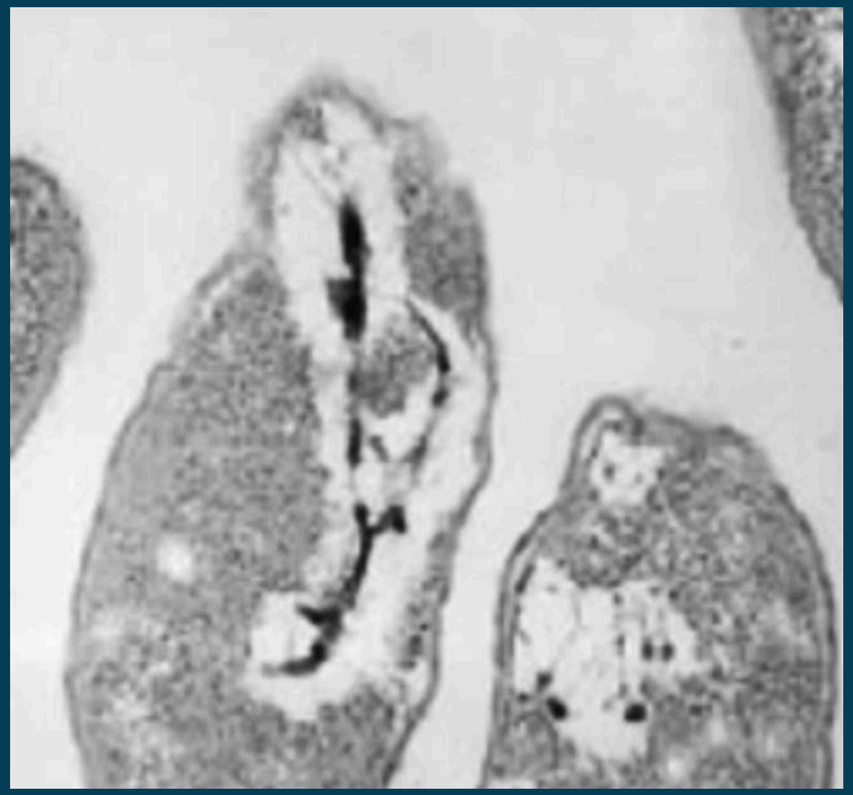
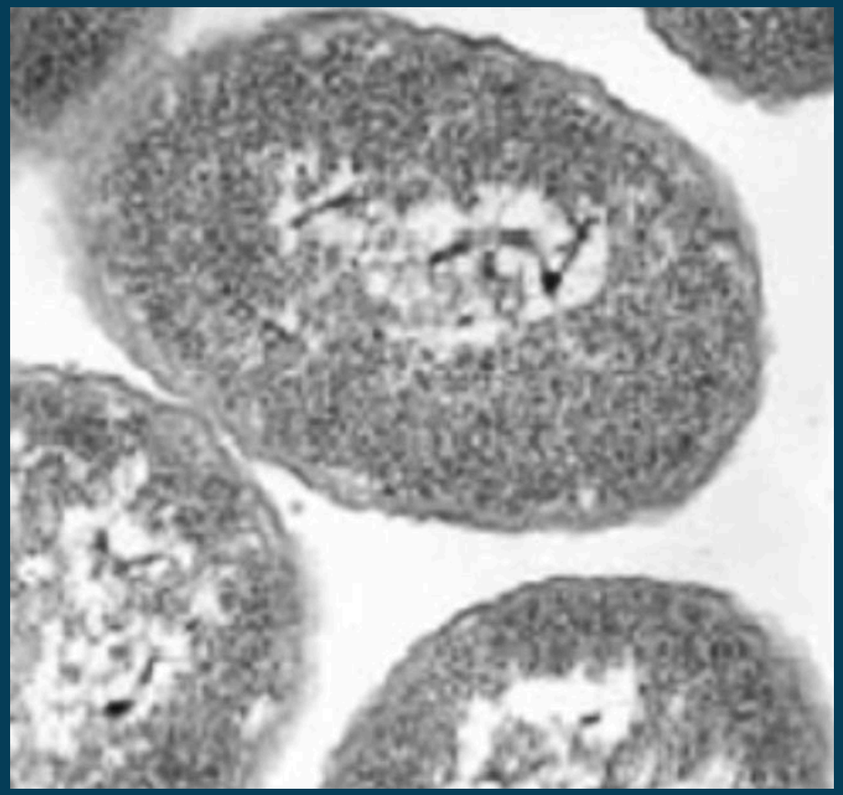
Enterococcus Bacteria Cells

Enterococcus Bacteria Cells **AFTER** exposure to **ProGuard** High Energy Ionization





*TEM photo of bacteria cells **AFTER** exposure to ionization process

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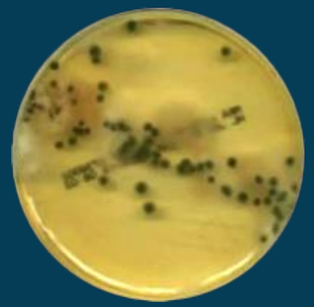
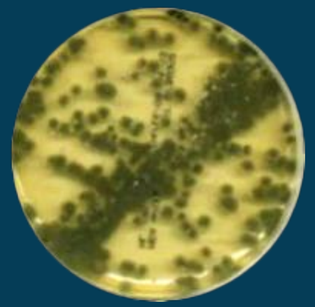
Effectively **Kills Pathogens** Of All Types

- **Problem:** Customer Was **Failing12%** Of Their Microbial Tests
- **Solution: Installing ProGuard** Customer **Passed 100%** Of Their Microbial Tests

FIELD STUDY: Denver, CO 25,000ft

Microbial Lab Test- WITHOUT ProGuard			
Analytes	Unit	Microbial CFU's	Pass/ Fail
Yeast/ Molds 1	c fu/g	29, 000	**FAIL**
Yeast/ Molds 2	c fu/g	20, 000	**FAIL**
Yeast/ Molds 3	c fu/g	65, 000	**FAIL**

Microbial Lab Test- WITH ProGuard			
Analytes	Unit	Microbial CFU's	Pass/ Fail
Yeast/ Molds 1	cf u/ g	200	**PASS**
Yeast/ Molds 2	cf u/ g	1, 000	**PASS**
Yeast/ Molds 3	cf u/ g	1, 300	**PASS**

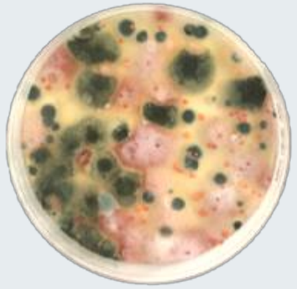
Prevents Mold & Powdery Mildew

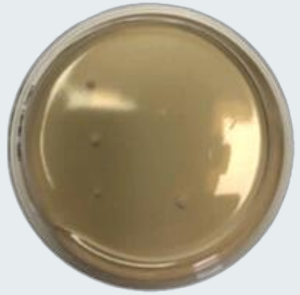
- **Problem:** Customer Was **Failing10%** Of Their Microbial Tests
- **Solution: Installing ProGuard** Customer **Passed 100%** Of Their Microbial Tests

FIELD STUDY: California 30,000 ft

Microbial Lab Test- WITHOUT ProGuard			
Analytes	Unit	Microbial CFU's	Pass/ Fail
Yeast/ Molds 1	c fu/g	11, 000	**FAIL**
Yeast/ Molds 2	c fu/g	41, 000	**FAIL**
Yeast/ Molds 3	c fu/g	23, 000	**FAIL**

Microbial Lab Test- WITH ProGuard			
Analytes	Unit	Microbial CFU's	Pass/ Fail
Yeast/ Molds 1	cf u/ g	160	**PASS**
Yeast/ Molds 2	cf u/ g	670	**PASS**
Yeast/ Molds 3	cf u/ g	280	**PASS**





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ProGuard Reduces Powdery Mildew

HORTICULTURISTS UNDERSTAND THAT POWDERY MILDEW (PM) IS SYSTEMIC

- Once a plant is infected with PM it is almost impossible to get rid of it
- PM then begins sporulation to grow and spread to other plants

VARIABLES THAT CAUSE PM

- Plant Factors: Strains, systemic clones
- Environmental Factors: Air quality, circulation, temperature, humidity
- Other Factors: Water, soil, growing practices

Air quality is a critical factor in minimizing Powdery Mildew, and the ProGuard System provides air and surface purification to help reduce its infestation and spread in indoor and greenhouse grows.

ProGuard is not a "Silver Bullet." Growers must also address their overall growing practices and implement effective QA SOPs to fully manage Powdery Mildew and other pathogens.

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Food Test Using ProGuard R**oom Temprature**

Non Treated

ProGuard Treated

DAY 1

Twocontainers of **non-treated** strawberries in separate, non-refrigerated rooms. One room **protected** with **ProGuard,** the other room was not.

DAY 8

On **day 8** the non-treated strawberries, **without ProGuard,** protection **developed botrytis**.
The **ProGuard protecte**dstrawberriescontained **no** mold, and only **showed some dehydtration**

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FACILITY

Insures an **umbrella of coverage** over the **entire facility**:

- Sanitization HVAC Supply Air
- Sanitize Critical Rooms
- Odor Control Exhaust

GROW ROOMS

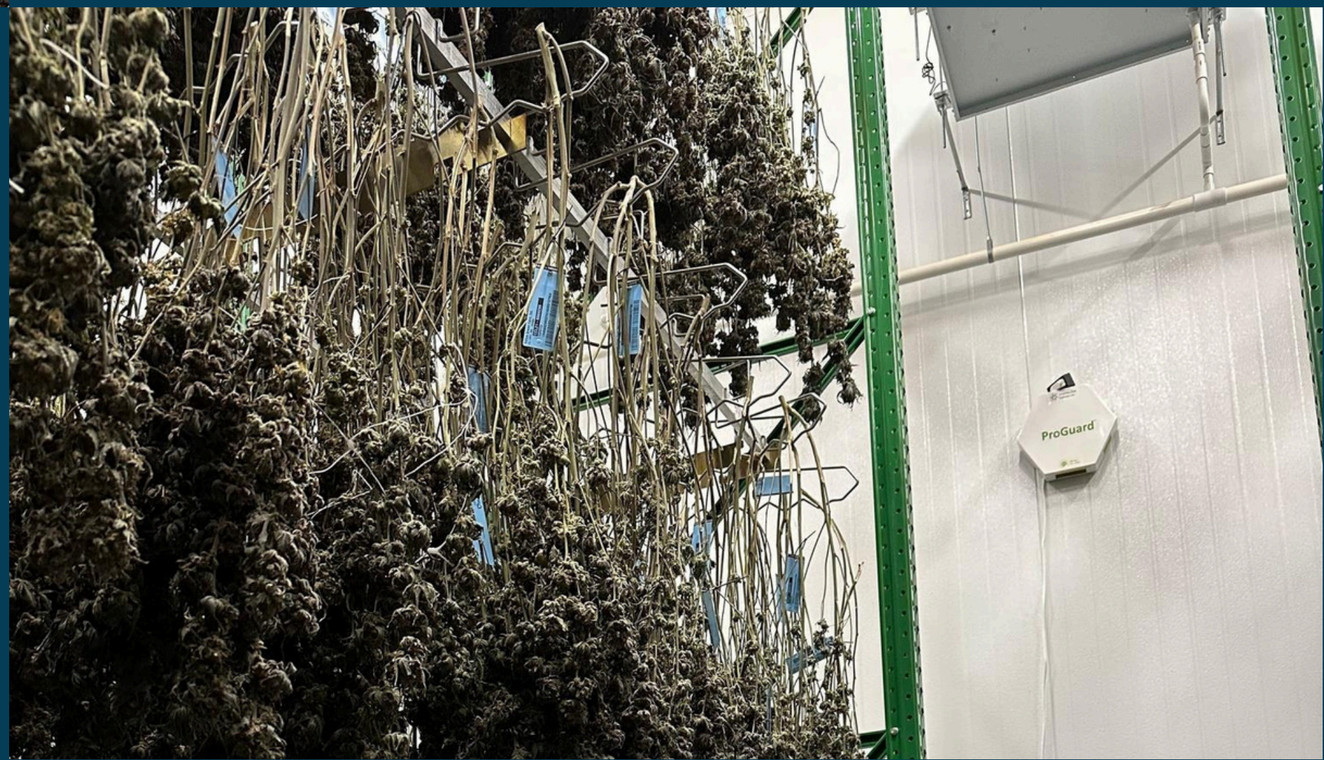
Provide **clean air** in the **Grow Rooms** to insure clean Bud development

PROCESSING

Provide a **clean environment** for trim, processing & packaging.

DRY ROOM

Manages: gray mold, botrytis, and bud rot in the dry and cure process.



ProGuard **Protection F**or Your Entire Facility

ProGuard insures an umbrella of protection around the entire facility to help manage gray mold, botrytis, and bud rot in all stages of cultivation

GROW ROOMS

- Clone
- Nursery
- Veg
- Flower

POST HARVEST

- Dry
- Cure
- Trim
- Packaging
- Storage
- Corridors
- Extraction Labs

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ROI Using ProGuard Protection

1,000 SF ROOM REQUIRES 2 - DXB 100 UNITS @ $1,150 EA. = TOTAL COST $2,300 USD

1. **1-GrowCycle** = 1000 sf room 800 sf canopy - 75 lbs. dried flower = **$150,000 yield per grow cycle**

2. **Rooms WITHOUT ProGuard on average produced 5%-10% LESS yield with additional costs**

   - Due to costs associated with product loss
   - Reduced yields and quality from PM
   - Costs for increased labor and inputs for spraying, increased pruning and attention

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ROI Using ProGuard Protection

GROW CYCLE PRODUCT YIELD	$15 0,000
10% Loss	-$15,000
5% Loss	-$7,500
2% Loss	-$3,000

- A conservative 2% increase in yield per cycle means a $2,300 ProGuard investment pays for itself in the first grow cycle
- An estimated 2-year ROI of over $30,000 per unit

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ProGuard Is University Tested by Dr. James Marsden

(Kansas State University)

Tested at Leading Universities

Dr. James Marsden

- Kansas State University distinguished professor of Food Safety & Security
- Research focus has been on the safety of food products
- Senior Science Advisor for the North American Mear Processor Association
- Advisor to the United States department of agriculture
- Author of over 100 publications and book chapters on food safety
- Advisor to American Meat Packers Association
- Past president of the American Meat institute foundation on the board of several corporations

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DXB 100

Application: Designed for high humidity high density areas including veg rooms, flower rooms, mother rooms, dry rooms, and greenhouses

- The **DXB 100** has been designed and engineered to **deliver sanitization** for high humidity high density environments using the ProGuard Sanitization Technology

- The **DXB 100** is easy to install and maintian as it **operates 24/7**

- **ProGuard Sanitization** has been **tested and validated** by reputable labs across the world to ensure safety and effectiveness in reducing mold, mildew, bacteria, viruses, voc's and other dangerous pathogens

Specifications

- Covers up to 500 sf / 46 m2
- Weight of unit 6.5 lbs
- Dimensions (HxLxD): 11.69" x 13.44" x 3.5
- Electrical input: 100-240V - 50/60Hz
- Electrical output: 12VDC 3A
- Power Consumption: Running 14W-21W
- Warranty: 2 years

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DXB Mini

Application : Indoor grow rooms, greenhouses, dry rooms, and more

- **The DXB Mini** has been designed and engineered to **deliver sanitization** that is proven to reduce and eradicate surface and airborne pathogens for **high load environments** in Cannabis Cultivation Centers using the ProGuard Sanitiation Technology

- **TheDXB Mini** is easy to install and maintain as it **operates 24/7** in Cannabis facilities

- **ProGuard Sanitization** has been **tested and validated** by reputable labs across the world to ensure safety and effectiveness in reducing mold, mildew, bacteria, viruses, voc's and other dangerous pathogens

Specifications

- Covers up to 250 sf / 23 m2
- Weight of unit 3.3 lbs
- Dimensions (HxLxD): 11.92" x 9.72" x 3.64
- Supply/ Voltage/ Watts: 100-240VAC/ 17W
- Operating Voltage/ Amps: 24VDC/ .67A
- Warranty: 2 years

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pureAir HVAC

Application: HVAC supply air, **offices, labs, and more**

- **pureAir HVAC** has been designed and engineered to **deliver sanitization** that is proven to reduce and eradicate surface and airborne pathogens in HVAC systems in **Cannabis Cultivation Centers** using Bipolar Ionization Technology (BPI)

- **pureAir HVAC** is easily installed in HVAC systems. BPI technology has been **testedandvalidated** byreputablelabsacross theworldtoensure safety and effectiveness in reducing odors caused by mold, mildew, bacteria, VOC's and other pathogens

Specifications

9" Cell

- 500 sf / 46 m2
- 3-3.5 tons
- 100-240 VAC/ 18W
- 24 VDC/ 0.70A
- 9.75" x 9.75" x 13"
- 2.8 lb

14" Cell

- 750 sf / 69 m2
- 5+ tons
- 100-240 VAC/ 28W
- 24 VDC/ 1.05A
- 9.75" x 9.75" x 18.75"
- 3 lb

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Guardian with BPI

Application : Sanitize **grow rooms after harvest** to prepare the rooms for new crops and more.

- The **Guardian** has been designed and engineered to **deliver sanitization** that is proven to reduce and eradicate surface and airborne pathogens for **high load environments** in Cannabis Cultivation Centers using the ProGuard Sanitization Technology

- The **Guardian** is easy to use as a **mobile unit** in Cannabis facilities

- **ProGuard Sanitization** has been **tested and validated** by reputable labs across the world to ensure safety and effectiveness in reducing mold, mildew, bacteria, viruses, voc's and other dangerous pathogens

Specifications

- Covers up to 2500 sf / 225 m2
- Weight of unit 39 lbs
- Dimensions (HxLxD): 20.5" x 18.5" x 23.5
- Electrical input: 120V/ 60 Hz or 220V/ 50Hz
- Airflow: 409 CFM
- Usage: Min. 143W/ 1.43A - Max. 274W/ 2.78A
- Aluminum cast
- Four 14" PCO cells
- Two 12" x 12" filters
- Four lockingcaster wheels
- Two carry handles
- Warranty: 2 years

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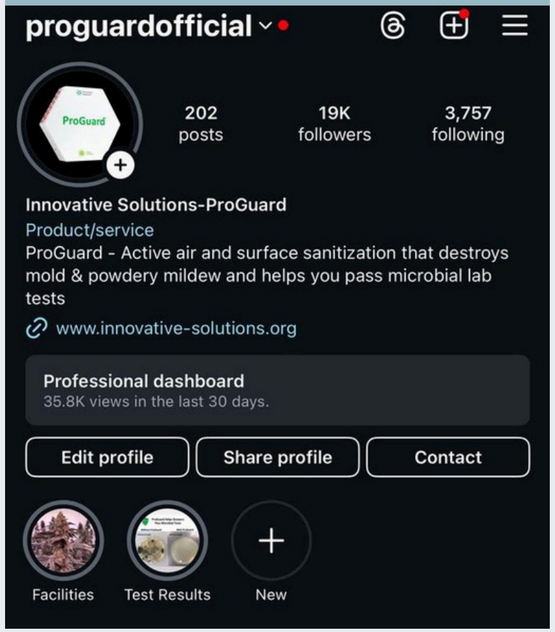
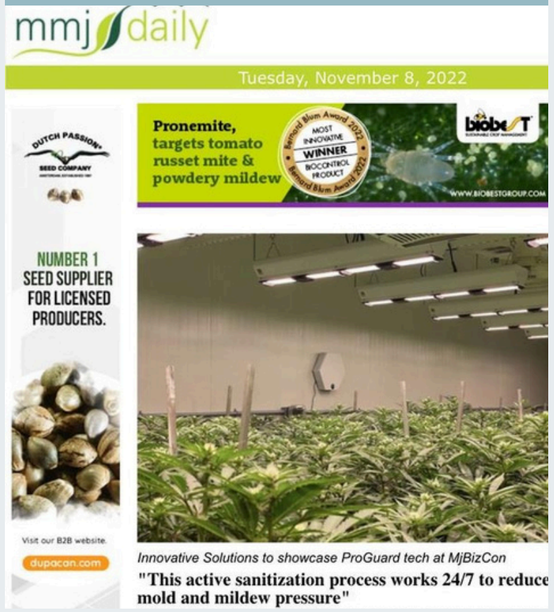
ProGuard Is The **World Leader**

- **Global Brand recognition** with 19,000+ followers on **Instagram @proguardofficial**
- **ProGuard** articles featured on **MMJDaily** which is viewed by tens of thousands of customers
- Featured on **CannaCribs videos** which is viewed by millions around the world

INSTAGRAM PAGE



MMJDAILY ARTICLE



CANNACRIBS

San Diego Cannabis with Zen Leaf (Deep Roots)

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