



99.999%
EFFECTIVE

LOWER
TCO

DRY -
CHEMICAL
FREE

SAFE

EASY TO
MAINTAIN



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NECEDAH, WI
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... a biosecurity company delivering a complete
and continuous solution to pathogen control

OUR TECHNOLOGY: PULSED ULTRAVIOLET LIGHT

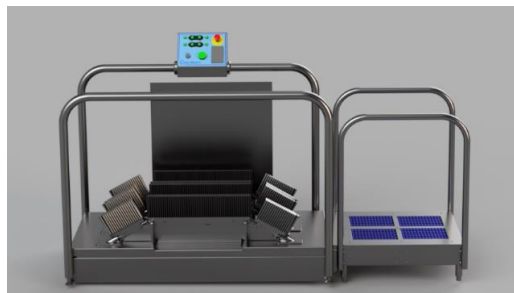
The use of Ultraviolet Light has a long history in the food processing industry for such diverse uses as sanitizing water and curing meat. Our patented form of Pulsed UV (PUV) is called *DryZap!*[™] which has many advantages. *DryZap!*[™] is very intense and deactivates pathogens in a matter of a few seconds where steady UV takes minutes and in some cases hours. *DryZap!*[™] is also a broadband form of light (200 - 1100 nm) - certain bacteria, molds and spores are killed most effectively at different wavelengths.

OUR SOLUTIONS: ZONE 4 - ZONE 0

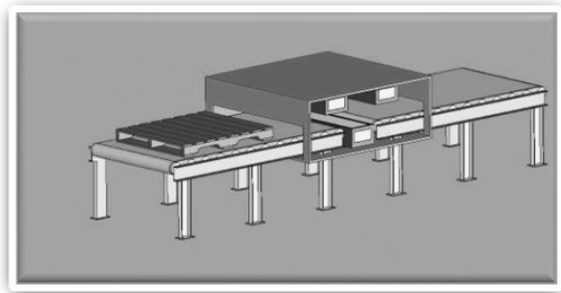
Pathogens move into and around facilities in a variety of ways. In addition to arriving on food itself, they are brought in on footwear, wheeled traffic, and pallets. They move from floors to clothing to hands to equipment and ultimately to food. Clean Beam offers a complete solution FOR YOU recognizing that the points at which deactivation is most appropriate differs by processor - even our standard solutions are customizable for your environment.

Standard Solutions

- **Footwear** - our footwear sanitizer comes in two models. One accommodates high traffic flow and the other where employee flow is of less concern. The former takes 6 seconds of exposure time and the later 10. A static pre-brush is included with the V2 and is optional with the Economy model - this gets debris off the shoes and out of the treads. Both yield a 5-log reduction in bacterial count..



Footwear Sanitizer V2



Pallet Sanitizer Sample
Drawing



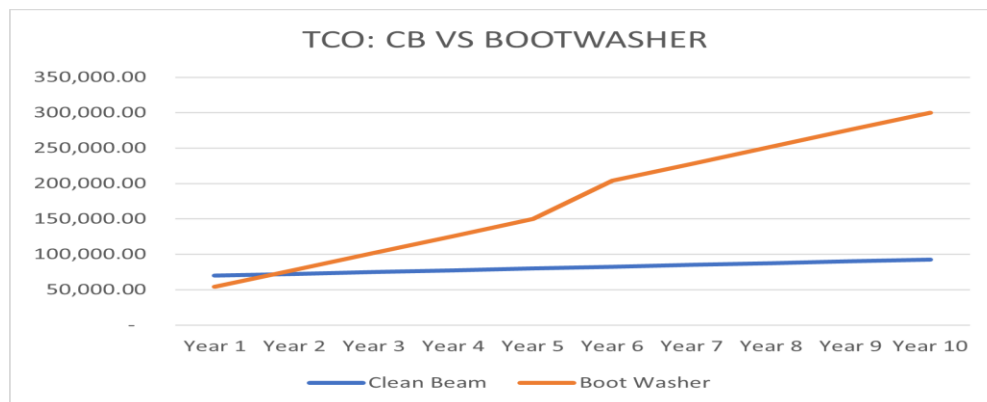
DryZap!™ SOLUTIONS CONT., ZONE 4 - ZONE 0

Custom Solutions

- **Wheeled Equipment and Pallets** - Our sanitation garage for fork trucks, pallet jacks and pallets is also customized for your environment based on whether it is installed in new construction or retrofitted to an existing facility. The garage has been designed so the pulsed light hits wheels as they move along- different lighting systems are used for different sized wheels. Pallets can be sanitized either on rolling equipment or on their own. Again, up to 5-Logs is achievable.
- **Food Contact Surfaces** - Sanitizing food contact surfaces (e.g., conveyors, cutters) is a critical next to last step in the sanitation process. Whether tunneled or open, a continuous DryZap!™ lighting system can be designed for maximum efficacy and safety. A big benefit of this approach to sanitizing food contact surfaces is that it can be done during production - no need to shut down. The productivity gains are substantial.
- **Food** - Where food itself is a potential for contamination just prior to packaging, we have a PUV solution. Several large recent recalls have shown bacterial contamination after processing and before packaging. We can design a solution to handle this problem. With that and with zapping the packaging as well, we can significantly extend the shelf life of your products.

FEATURES OF OUR SOLUTIONS: MORE EFFECTIVE AT A LOWER TCO

- **Proven More Effective** - working with our partner Novolyze, a reputed food safety firm, we have demonstrated in plant conditions a 5-log reduction of the most light resistant bacteria - that's a 99.999% decrease. Efficacy is a function exposure time, distance from the light to the surface being disinfected and light intensity. We can alter exposure time and distance if necessary to accommodate your need. Research paper on request.
- **Lower TCO** - Our analysis indicates that the total cost of operation vs alternative methods is favorable for our solutions as the ongoing material and labor costs for boot washers, for example, add up. See below:



- **Dry and Chemical Free** - help meet your sustainability goals and keep your facilities dry.
- **Safe** - PUV, like steady UV, can be harmful to eyes and skins if the risks are not mitigated. Reduced exposure time for PUV makes a positive difference. We have also built in many safety features as this video shows
- **Easy to Maintain** - takes less than 5 minutes a day to wipe the glass and swap out the brushes in the pre-brush system. Once a year, the bulbs need replacing - a 15-minute task. By the way, these bulbs are mercury free and present no sustainability issues. This link will demonstrate the necessary maintenance.