

IMPROVING HYGIENE ACROSS HOSPITALITY with HYGENIKX+



FRESH FOOD STORAGE

Extends shelf-life - 'Proven' !

- Reduces food waste

- Improves food safety - removal of pathogens and moulds

- Raises standards - in the air and on surfaces



FOOD PREPARATION

Targets biological hazards

- Eradicates viruses and bacteria. Certified and accredited

- Improves levels of hygiene & safety - around the clock

- Prevents cross contamination



REFUSE & WASHROOMS

Removes unpleasant odours

- Significantly improves hygiene standards

- 27/7 hygiene & safety protection

- Improves client / staff experiences

LABORATORY
TESTED*
Up to **99.99%** of
CORONAVIRUS
removed



Air & Surface Sanitisation

by **MECHLINE**

www.mechline.com/hgx

*Tested by Campden BRI using Covid-19 Surrogate Phi6. The results proved that up to 99.99% of airborne Covid-19 surrogate was removed in under 3 hours.



**DUAL WAVEBAND
UVC TECHNOLOGY**

**SAFE TO USE
EASY TO INSTALL**

**SUPEROXIDE IONS
PLASMA QUATRO**

**Prevents the spread of
viruses & bacteria**

Reduce food waste

Improves hygiene & safety

COMMERCIAL FOODSERVICE & HOSPITALITY

The HyGenikx 'S' range are designed for toilets and restrooms, changing and locker room areas.

The HyGenikx 'F' range are designed for food storage, preparation and service, this includes chilled food storage areas.

The HyGenikx 'R' range are designed for non-occupied Refuse/Bin Store areas where there is a greater need for odour control.

10m ²	HGX-W-10-S	HGX-T-10-S	HGX-W-10-F	HGX-T-10-F	X	X
20m ²	HGX-W-20-S	HGX-T-20-S	HGX-W-20-F	HGX-T-20-F	X	X
30m ²	HGX-W-30-S	HGX-T-30-S	HGX-W-30-F	HGX-T-30-F	X	X
NON-OCCUPIED	X	X	X	X	HGX-W-15-R	HGX-T-15-R

SMALLER OCCUPIED Areas

The HyGenikx 'O' range are designed for SMALLER occupied office areas, communal living spaces or dining areas.

The HyGenikx 'AF' range are designed for LARGER occupied office areas, communal living spaces or larger dining areas.

10-20m ²	HGX-W-05-O	HGX-T-05-O
20-40m ²	HGX-W-25-O	HGX-T-25-O

LARGER OCCUPIED Areas

25m ²	HGX-AF-25	
50m ²	HGX-AF-50	
75m ²	HGX-AF-75	
100m ²	HGX-AF-100	

TESTING & EFFICACY

ENVELOPED RNA VIRUSES SURROGATE TESTING (AIRBORNE)

PERFORMED BY CAMPDEN BRI (CHIPPING CAMPDEN) LIMITED

Trials were conducted within the Campden BRI aerobiology laboratory to determine the efficacy of HyGenikx towards airborne Phi6 - a surrogate for enveloped RNA viruses (including Influenza & Coronaviruses). Results show the air and surface sanitisation system **removes up to 99.99% of the airborne Influenza surrogate in under 3 hours.**

Method Phi6 Pseudomonas syringae phage is an enveloped RNA virus* used as a surrogate for influenza and coronavirus.

Phi6 was nebulised into an aerobiology test chamber to represent heavily contaminated air.

Air samples were then taken every 20 minutes for a period of 3 hours, to determine levels of Phi6 in the air.

This was performed in paired trials – with the HyGenikx unit turned off as a control, and with the HyGenikx unit turned on.

The efficacy of the systems was determined by calculating both log reductions† of the test run compared

to the control run and Decimal reduction (D) values, which is the time it takes to achieve a 1-log reduction.

6 sets of trials were completed, and the average was reported as a result.

Results The level of Phi6 in the air decreased in all trials. The D value achieved ranged from between 19 minutes and 60 minutes and the test samples showed log reductions of up to >4.1 (where the levels of virus are no longer detectable) when compared to equivalent control samples. An average of 4 log reduction was reported – **with HyGenikx removing up to 99.99% of the airborne influenza surrogate in under 3 hours.**

Conclusion HyGenikx is effective at reducing airborne RNA viruses, including the influenza and coronavirus surrogate (the viruses that cause Flu and COVID-19).



These results, Mechline believe, are an industry first, making HyGenikx Air and Surface Sanitisation System the most effective product of this type on the market.

Test carried out under control conditions to BS EN 17272:2020

* Notable human diseases caused by RNA viruses include the common cold, influenza, SARS, MERS, COVID-19, Dengue Virus, hepatitis C, hepatitis E, West Nile fever, Ebola virus disease, rabies, polio, mumps, and measles.

† Log reduction is used to express the relative number of microorganisms eliminated.

WITHOUT HyGenikx



WITH HyGenikx



Illustrative purposes only.

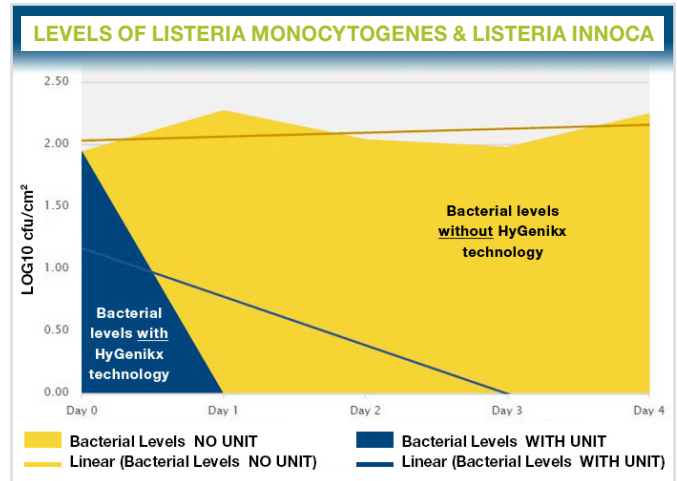
LISTERIA MONOCYTOGENES + LISTERIA INNOCUA TESTING – PERFORMED BY ALS LABORATORIES

An independent validation study was conducted by ALS Laboratories into the effect of HyGenikx technology on harmful Listeria species, one of which—*Listeria monocytogenes*—is a bacterial pathogen and widely associated with foodborne outbreaks.

Method Sterile surfaces were inoculated with *Listeria monocytogenes* and *Listeria innocua*, left to dry, and stored in a cold room at $1\pm 1^{\circ}\text{C}$ for four days, where bacteria were measured daily. This was performed in the presence and absence of HyGenikx technology.

Results Without HyGenikx technology, bacteria levels remained around 2 log cfu/cm². With HyGenikx technology, bacteria levels decreased to 0 log cfu/cm² within 24 hours, and all samples were below detectable levels by day 3.

Conclusion The findings showed that in the absence of HyGenikx technology, there was steady surface contamination with moderate bacterial growth, but in the presence of HyGenikx technology there was a depletion of the bacterial contamination beyond detectable levels. This study validates the ability of HyGenikx to eliminate harmful *Listeria* from the environment, protecting both staff and customers.

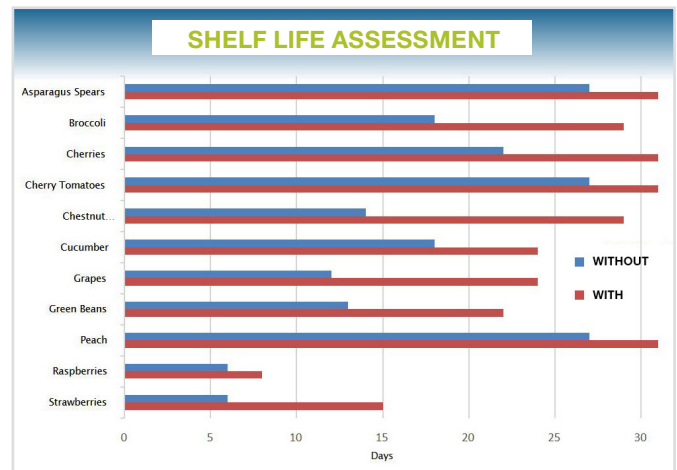


FOOD SHELF-LIFE TESTING – PERFORMED BY ALS LABORATORIES

An independent validation study was conducted by ALS Laboratories into the ability of HyGenikx to prolong the shelf-life of produce stored in a cold room, as well as its ability to improve environmental conditions.

Method The project was structured in two phases, identical in all aspects except for the introduction of the HyGenikx unit at the beginning of the second phase. 11 food samples were stored in a cold store at $5\pm 1^{\circ}\text{C}$ for 31 days and assessed on when they were deemed to have passed their saleable shelf-life. Swabs and air plates were also used to monitor the environment of the cold store.

Results (Shelf-life) The results showed a consistent increase in the shelf-life of the produce during the second phase of the trial with HyGenikx (compared to the first phase, without), with an average increase of the shelf-life of 58.1% (approximately 7.5 days). There was an increase in the shelf-life of all 11 products trialled, ranging from 14% to 150%. The highest three increases recorded were Strawberries, with +150% (+9 days), Chestnut Mushrooms, with +107.1% (+15 days) and Grapes with a twofold increase (+12 days).



Results (Air and Surface Contamination) With HyGenikx, the surface contamination decreased by approximately 45% and the air contamination by approximately 76% overall.

Conclusion HyGenikx was proven effective at achieving a longer shelf-life for the chosen fruit and vegetables and improving environmental conditions in a cold store during the trial. Crucially, these results were achieved in a simulated working environment cold store - which provide as close to “real world results” as possible. Principally, fruit and vegetable life and quality can be significantly extended, and environments improved, with the installation of HyGenikx.

AIR & SURFACE TESTING AGAINST LISTED PATHOGENS – PERFORMED BY THE UNIVERSITY OF LEEDS

AIR disinfection evaluation efficiency:

PATHOGEN	1 HOURS
E. Coli	100%
S. aureus	100%
A. fumigatus	100%

SURFACE disinfection evaluation efficiency:

PATHOGEN	1 HOUR	24 HOURS	48 HOURS
E. Coli	79.6%	97.7%	99.9%
S. aureus	87.4%	91.1%	99.5%
C. difficile	91.4%	98.1%	99.6%

