

SANIST TECHNOLOGIES

COMMERCIAL SANI~CHILL SYSTEM



GREEN TECHNOLOGY

FDA APPROVED

CHEMICAL – FREE

CERTIFIED ORGANIC

SCIENTIFICALLY SOUND

USER FRIENDLY

SANIST TECHNOLOGIES

“Purification Systems and Processes”

A STUDY AND TESTING PERFORMED ON THE SANICILL SYSTEM AT THE UNIVERSITY OF GEORGIA, DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY UNDER THE DIRECTION OF DR. YEN-CON HUNG WAS PEER REVIEWED AND PUBLISHED IN THE JOURNAL OF FOOD SCIENCE

<https://onlinelibrary.wiley.com/doi/epdf/10.1111/1750-3841.13364>

THE TESTS DEMONSTRATED A STRONG ANTIMICROBIAL EFFECT WHICH REDUCED THE POPULATION OF E. COLI 0157:H7 by 99.999% (5 LOG) ON ROMAINE AND ICEBERG LETTUCES



SANIST TECHNOLOGIES

USDA/National Organic Program (NOP)

Ozone is listed in the NOP Final Rule (Subsection 205.605 (b) (20) pg. 437 – Non-agricultural (non-organic) substances allowed as ingredients in or on processed products labeled as “organic” or made with organic (specified ingredients or food groups(s)).(b) Synthetics allowed: (20) ozone

USDA/FSIS

The use of ozone on raw and ready-to-eat meat and poultry products just prior to packing is acceptable. There are no special labeling requirements in regard to treated product.



SANIST TECHNOLOGIES

SANI~CHILL SYSTEMS

- AUTOMATED PROTOCOL
- CHILLED WATER
- 1 TO 4 QUARTS PER CYCLE
- CHEMICAL FREE
- LIQUID / VAPOR SPRAY / UV
- AUTOMATED TOUCH AND GO PRODUCT CYCLE

TRADITIONAL WASHING METHODS

- MANUAL PROTOCOL
- TAP WATER
- 15 GALLONS PER CYCLE
- CHEMICAL ADDITIVES
- SINK / TUB SOAK
- MANUAL PRODUCT HANDLING

SANIST TECHNOLOGIES

ESTABLISHES A PROTOCOL FOR THE
PREPERATION OF FRUIT AND VEGETABLES WITH
40 DEGREE WATER

EXTENDS PRODUCT SHELF LIFE

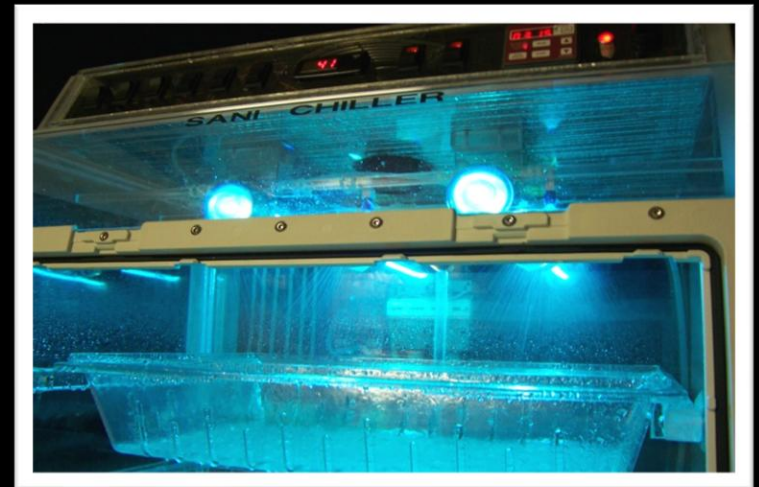
The Use of Ozone to Extend the Shelf-life and Maintain Quality of Fresh Produce

<https://onlinelibrary.wiley.com/doi/abs/10.1002/jsfa.6776>

REDUCES LABOR COSTS

ULTRA-EFFICIENT USE OF WATER
(1 GALLON PER CYCLE)

IMPROVES TASTE AND APPEARANCE
CHARACTERISTICS



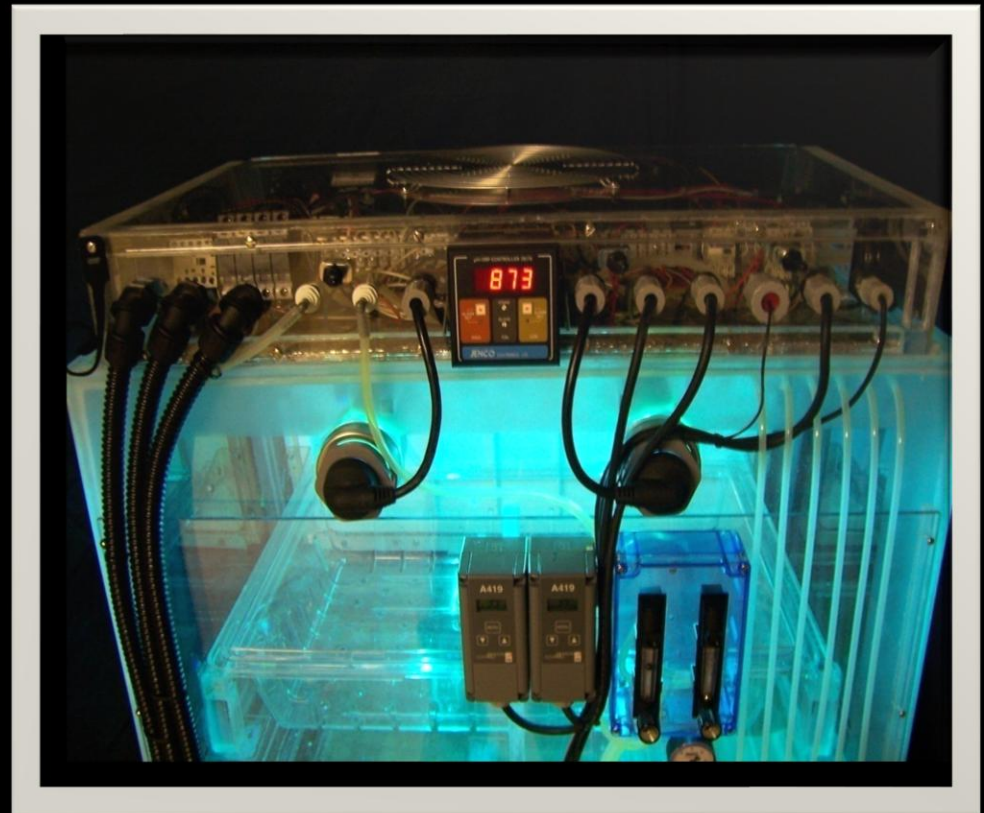
SANIST TECHNOLOGIES

ECONOMICAL DESIGN AND OPERATION

ONE TOUCH SANITATION
CYCLE

ON-BOARD DIAGNOSTICS

SMALL FOOTPRINT
34"W x 26"D x 55" H



SANIST TECHNOLOGIES

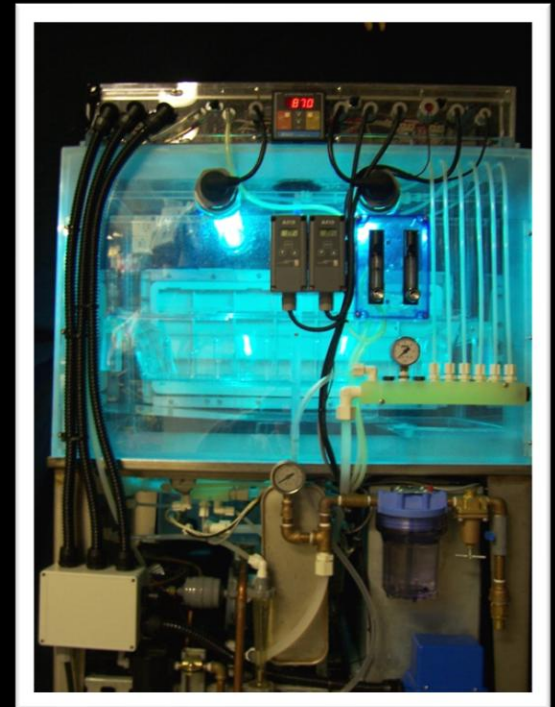
CORONA DISCHARGE GENERATION

ULTRAVIOLET ENHANCED

ACTIVATED CARBON OFF-GAS SYSTEM

ON - BOARD WATER CHILLER

AUTO FILL AND PURGE



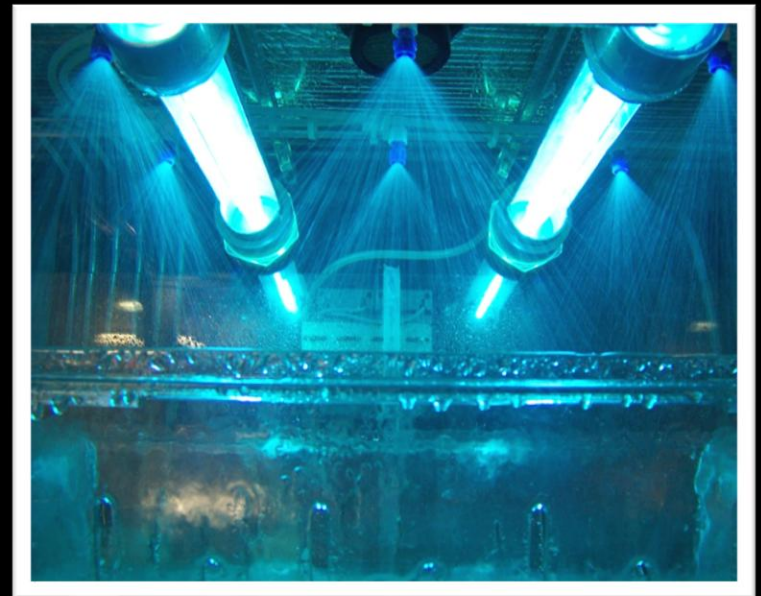
SANIST TECHNOLOGIES

ACTIVATED OXYGEN...A SAFE AND EFFECTIVE ANTI-MICROBIAL AGENT FOR FOOD TREATMENT

THERE ARE NO KNOWN BACTERIA OR
VIRUSES RESISTANT TO ACTIVATED
OXYGEN

KILLS MICROBIAL CONTAMINATES BY
RUPTURING THE CELLULAR MEMBRANE

REACTIVATION OF THE CELL IS
IMPOSSIBLE



SANIST TECHNOLOGIES

APPLICATION OF CHILLED WATER AND VAPOR
PHASES OF SANITIZING AGENT IS
GENTLY APPLIED TO PRODUCT
SURFACES

MICROBIAL CONTAMINATION
IS REDUCED ON EXTERIOR
AND INTERSTITIAL SURFACES

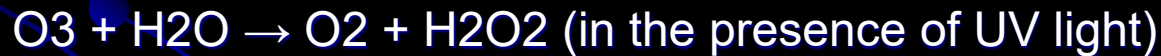


SANIST TECHNOLOGIES

UV Ozone Advanced Oxidation Process

In the UV ozone process, photons in the UV spectrum convert ozone in the presence of water to oxygen and peroxide.

The peroxide then reacts with the ozone to form the hydroxyl radical. A simplified reaction sequence is shown below;



Organic oxidation occurs due to the reaction with hydroxyl radicals, molecular ozone and direct photolysis.

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COMMONLY USED OXIDANTS

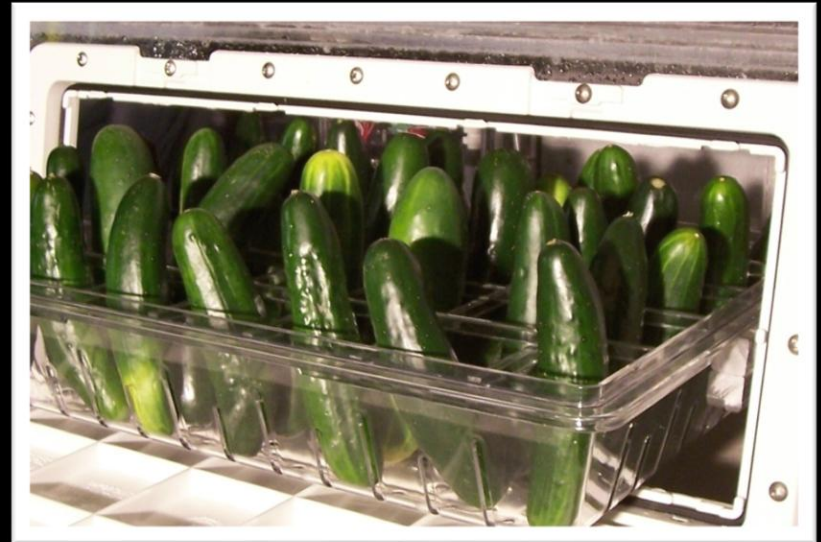
ELECTRON OXIDIZING POTENTIAL

<u>OXIDIZING AGENT</u>	<u>EOP</u>
<u>HYDROXYL RADICAL</u>	<u>2.80</u>
<u>OZONE</u>	<u>2.08</u>
<u>PERACETIC ACID</u>	<u>1.81</u>
<u>HYDROGEN PEROXIDE</u>	<u>1.78</u>
<u>HYPOCHLORITE</u>	<u>1.49</u>
<u>CHLORINE</u>	<u>1.36</u>
<u>CHLORINE DIOXIDE</u>	<u>1.27</u>

SANIST TECHNOLOGIES

ACTIVATED OXYGEN IS MORE
EFFECTIVE THAN ANY OTHER
BIOCIDE

ACTIVATED OXYGEN KILLS
BACTERIA 3,125 TIMES FASTER
THAN CLORINE



28 Cucumbers

SANIST TECHNOLOGIES

DIFFICULT TO DETERMINE PRIOR
HANDLING METHODS

FOOD INDUSTRY IS HEAVILY
FRAGMENTED

DIFFICULT TO MAINTAIN PROPER
INSPECTION STANDARDS

INSPECTORS ARE CAUGHT IN A CONFLICT
BETWEEN ENFORCEMENT RESPONSIBILITY
AND FACILITATING THE FLOW OF GOODS

INTEGRITY OF MINIMALLY PROCESSED
PRE - CUT PRODUCE IS DIFFICULT TO
DETERMINE



4 lbs. Tomatoes

SANIST TECHNOLOGIES

US Government Regulatory Status

FDA/CFSAN-June26,2001

Final Rule published in Federal Register
(21 CFR Part 173,Docket No. 00F-1482)

“The FDA amends the food additive regulations to provide for the safe use of ozone in gaseous and aqueous phase as an anti-microbial agent on food, including meat and poultry.”



280 Onions