



AUTOMATED VEGETABLE WASH & SANITIZING SINK (X-GREEN) | DoD CFD

PURPOSE:

Currently, Navy personnel must hand wash Fresh Fruits & Vegetables (FF&V) during meal preparation in Navy galleys. This process is labor intensive, time-consuming and doesn't kill all pathogens on FF&V effectively. The Automated Vegetable Wash & Sanitizing Sink is a newly developed and recently tested piece of equipment that has been designed to effectively sanitize FF&V while increasing safety of the produce and reducing the amount of shipboard labor.

CHARACTERISTICS:

The Automated Vegetable Wash & Sanitizing Sink, known commercially as the X-Green Produce Sanitation System, is a versatile piece of equipment that can provide labor savings by reducing the overall time to wash/sanitize produce. The use of the automated system allows food service personnel to complete other tasks while the produce is being washed/sanitized. The X-Green can be fabricated with one, two, or three compartments depending on the application needed and provides automated injection of two products to provide safe and effective cleaning of the FF&V: a vegetable wash and a defoamer. The vegetable wash is made from all natural products, including citric acid and grapefruit oil. The defoaming agent is a food grade silicone solution that is injected in small quantities to minimize foaming.

The X-Green saves time and increases food safety by effectively reducing bacteria and microbes that cause food-borne illness. It also reduces shipboard labor costs and provides an ergonomic design application of human systems integration principles that support optimized galley crew sizes. Additionally, this item maximizes performance effectiveness when washing and sanitizing FF&V overseas. According to NAVMED P5010-1, when produce is purchased overseas, the produce must be sanitized in a 100 PPM chlorine solution. Chlorine is a hazardous chemical, and if not measured correctly, is either not effective or leaves an unpleasant taste on food. Since the vegetable wash is citrus based, it is completely safe and leaves no aftertaste. The X-Green also eliminates errors in chemical measurements because the computer maintains proper pH levels based on input from an onboard sensor.

CAPABILITIES & BENEFITS:

- Reduces amount of labor needed for vegetable preparation by utilizing a semi-automated process.
- Supports "green initiatives" by utilizing a citric based vegetable wash that is environmentally friendly.
- Elimination of chlorine used to wash produce purchased overseas results in better tasting FF&V.

COMMENTS:

This item has been tested by the SEET and has been found to produce cleaner, safer FF&V while providing a labor savings as well. Currently undergoing further test and evaluation.

POINT OF CONTACT:

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AT A GLANCE:

- **MAJOR COMPONENTS:**
Refrigeration, agitation, and chemical injection systems that are all automated and controlled by a touch screen interface.
- **POWER REQUIREMENTS:**
 - Current Prototype requires 220 Volts, 60 Hz, single phase.
 - Can be made into a 115 V or possibly a 440 V unit according to the manufacturer; Navy requires equipment to be either 440 V or 115 V.
- **OPTIMAL EFFECTIVE OPERATING TEMPERATURE:** 70°F (21°C)