

# Innovative Method to Treat Produce Wash Water for Microbial Reduction and for Reuse

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PROPOSAL: ASU-01-2018 - STATUS: [X New](#) Continuation

### Rationale

- Contaminated fresh produce is a significant public health problem in the US. Despite improvement in the production, handling and distribution of fresh produce, the disease load has not decreased in the recent years. A significant amount of water is used for washing and rinsing of fruits/vegetables. Wash water treatment to reduce microbial load during recycling for reuse is critical for ensuring the safety of fresh produce. Currently, chlorine is widely used for the treatment of wash water, which may add DBPs to the recycled water.

### Objectives

- The objective is to evaluate the efficacy of non-oxidizing biocide, (PHP37) for treating fresh produce wash water during reuse cycle.

### Approach

- Bench scale batch experiments will be performed to test the efficacy of PHP37 for reducing microbial load in fresh produce and wash water.

### Experimental Variables:

- Non-oxidizing biocide PHP37 Concentration
  - 0.02, 0.05 and 0.08%
- Produce:
  - Melon & Lettuce
- Test bacteria:
  - E. coli*, *Salmonella* & *Listeria*
- Procedure:
  - Spot inoculation
- Wash Cycle:
  - Test microbial load of water after 5, 10 & 20 washes

### Key Deliverables

- Establish the residual microbicidal efficacy of PHP 37.
- A technical report and peer reviewed publication

### Budget Requested:

\$30,000

### Project Duration

January – December 2019