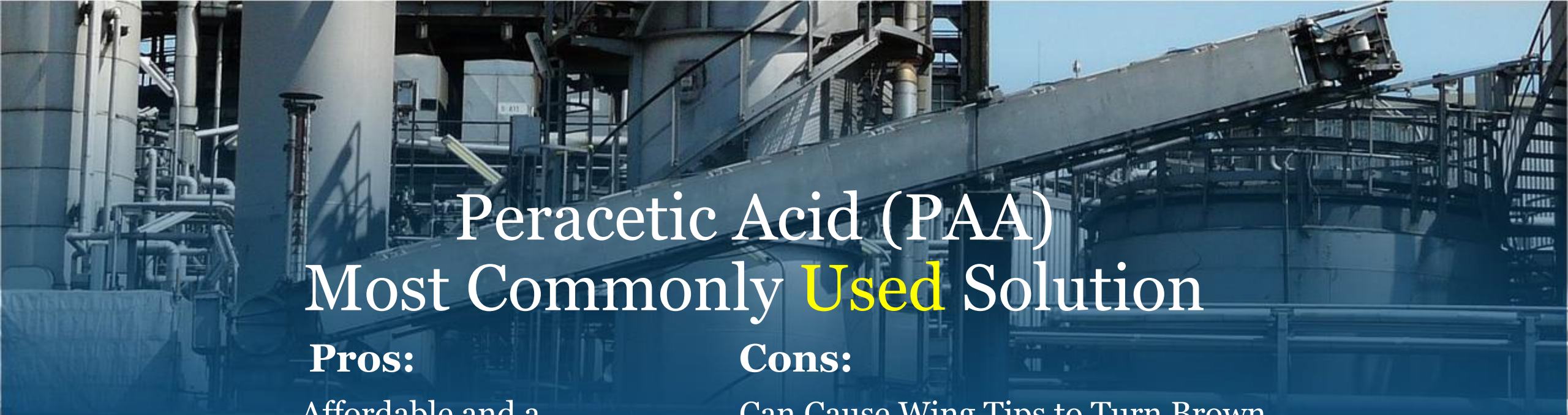
CONTAGION CONTROL™
SOLUTIONS

CCS Solution
Farm to Table Safe

Clean Processing ~ Clean Environment
A Solution For A Variety Of Products, Including Poultry, Meat, Seafood, Fruits, Vegetables, Equipment, Etc.
Non-Toxic ~ Eco-Friendly



Peracetic Acid (PAA) Most Commonly Used Solution

Pros:

Affordable and a

Good Disinfectant

Cons:

Can Cause Wing Tips to Turn Brown

Requires Training to Handle and Use

There is an Explosion Hazard

Possible Severe Skin, Respiratory and Eye Damage

When Used Improperly and Without the Right Precautions, in Place, PAA can Cause Serious Damage, both, to the Human Body and to the Equipment

CCS Solution USED FOR ALL PRODUCTS

- Non-Toxic
- Eco-Friendly
- 100% Natural
- 100% Safe
- 100% Tested and Approved
- Highly Effective Solution for Killing Salmonella and Campylobacter
- A Long Disinfectant Organism List, including, Several from the Following Categories:
  Bacteria, Mycobacterium, Parvoviruses, Viruses Enveloped, Viruses Non-Enveloped, Yeast, Bloodborne Pathogens, and, Food Contact Surface Bacteria (Listeria)
- Safe for Employees - No PPE Required - No Harm to Skin, Eyes and Lungs
- Will NOT Cause Wing Tips to Brown (Poultry)

CCS Solution Uses

- Disinfecting all Meat, Seafood, Poultry both Raw and Cooked
- Disinfecting and Preventing Bacteria on Pre-cooked Packaged and Frozen Foods
- Farm to Table Sanitation Working with Growers of Chicken, Eggs, Meat, Seafood, Lettuce, Fruits, Vegetables and More
- It Can be Used in Animal Water to Help Prevent Bacteria in Early Stages
- Non-Toxic Sanitizing and Cleaning of All Equipment, Floors, Housing and Will Not Damage any Surfaces, Wood, Metal or Plastic

CCS Disinfectant Organism List

- **Bacteria**

Bordetella bronchiseptica [Kennel Cough) (ATCC 10580)
Clostridium difficile-spore (C. Diff or C difficile) (spores) (ATCC 43598)
Escherichia coli (E coli) (ATCC 11229)
Klebsiella pneumoniae New Delhi Metallo-Beta Lactamase (NDM-1) Carbapenem Resistant (CRE)
Listeria monocytogenes (Listeria) (ATCC7644)
Methicillin-Resistant Staphylococcus aureus (MRSA) (ATCC 33591)
Pseudomonas aeruginosa (Pseudomonas) (ATCC 15442)
Salmonella enterica (Salmonella) (ATCC 10708)
Staphylococcus aureus (Staph) (ATCC 6538)
Vancomycin Resistant Enterococcus faecalis (VRE) (ATCC 51229)

- **Mycobacterium**

Mycobacterium bovis, BCG (Tuberculosis-or-TB)

- **Parvoviruses Non-Enveloped**

Canine parvovirus (ATCC VR-2016) ((Strain Cornell)]

- **Viruses Non-Enveloped**

Adenovirus (1 or Type 1) (Strain 71) (ATCCVR-1) Norovirus or Norwalk Virus (as Feline Calicivirus) (Strain F-9) (ATCC VR-782)
Rhinovirus (16 or Type 16) (Strain 11757) (ATCC VR-283)
Rotavirus (A or Group A) (Strain WA) (ATCC VR-2018)

- **Viruses Enveloped**

Canine distemper virus (ATCC VR-1587) [(Strain Snyder Hill)
[Human] Hepatitis C [Virus] [(as bovine diarrhea virus)] [(HCV)] [(Strain ADL)] [(ATCC VR-1422)]
Human Immunodeficiency Virus Type 1 (HIV-1), strain IIIB (clade B); ZeptoMetrix
Influenza A (H1N1) Virus [(Strain A/Virginia/ATCC1/2009)] [(ATCC VR-1736)1 [(flu virus)]
Influenza A Virus (H1N1) A Swine/1976/31 (ATCC VR-99) [(flu virus) Respiratory Syncytial Virus (RSV) (Strain A-2) (ATCC VR-1540)
Swine Flu Virus (H1N1) A Swine/1976/31 (ATCC VR-99)

- **Yeast**

Candida albicans (ATCC 10231)

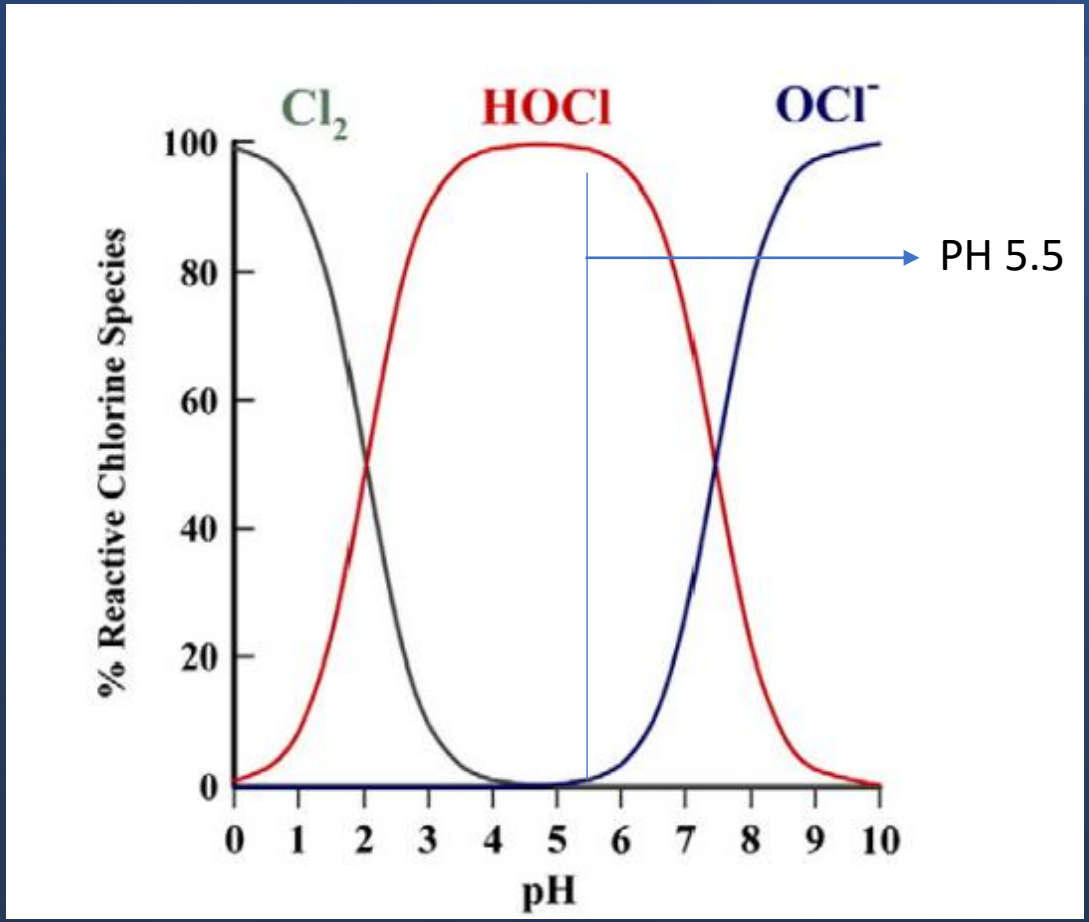
- **Bloodborne Pathogens**

Human] Hepatitis C [Virus] [(as bovine diarrhea virus] [(HCV)] [(Strain ADL)] [(ATCC VR-1422)]
Human Immunodeficiency Virus Type 1 (HIV-1), strain IIIB (clade B): ZeptoMetrix

- **Food-Contact Surface Bacteria**

Listeria monocytogenes (Listeria) (ATCC 7644)

Contagion Control Solution – pH 5.5
Stable & Consistent



The use of chlorine products that form hypochlorous acid in solution at very low pH has limited potential for long-term applications. At this pH <4.0, dissolved chlorine gas can be rapidly lost due to volatilization, decreasing the biocidal effectiveness of the solution over time, but creating human health and safety issues. The high acidity of the solution may adversely affect food processing equipment and medical instruments surfaces by causing corrosion (Fisher, 2009).

Lethal Dose (LD50)
5 Grams Per Kilo of Body Weight

Acute Dose Effects: Eyes: Mild eye irritant
Inhalation: No data found.
Skin: LD50 >5000 mg/kg.
Oral: LD50 >5000 mg/kg.

An explanation of CCS LD50:

- CCS contains 0.020% or 200 milligrams per liter or about 750 milligrams per gallon. 1000mg=1 gram.
- You need 5 grams per kilo for LD50 (5000 mg/750mg=6.6-gal (5grams) x (Kilos)
- Using this math, it would require 6.6 gallons of (product) for every kilo of body weight or 2.2 pounds of body weight to kill half (50%) of the test subjects (employees).
- Example a 150-pound employee is equivalent to 68 kilos. 6.6 gallons of (product) X 68= 448.8.
- Approximately 450 gallons would need to be consumed orally or absorbed through the skin for a lethal dose of CCS

Where to Start .....

- CCS may be used in many areas of Food Production and Processing: Hatcheries, Animal Feed, Fruits, Vegetables, Poultry, Seafood, Pork, Beef/Red Meats, Equipment, etc.
- Today we will Focus on the Processing Line for Meat
- Starting with Scalding, an Appropriate Solution of 50-60ppm will Start the Process of Killing Pathogens on the Feathers and Skin
- A Spray of CCS will Ensure that the Outside of the Animal is not a Source of Contamination

Evisceration Process

- The Removal of the Internal Organs
- A Critical Point in the Process and a Point where Cross Contamination is a Concern
- CCS performs Best when the Solution is Fresh and Sprayed into the Cavity and Allowed to Drain
- FSIS Approval for Electrolytically-generated Hypochlorous Acid is Specifically Called Out for Use on Whole or Eviscerated Poultry with Levels Not to Exceed 50-60 ppm
- Chiller Water is also included in FSIS Approvals
- CCS can also be Used during the Splitting, Washing and Dressing of Carcasses

Processing and Preparation

- Water Chilling, Air Chilling or Spray Chilling
- FSIS Decrees that the Poultry Chiller Water Shall Not Exceed 50ppm, Measured in the Incoming Potable Water
- It is Important to Note that the Organic Load within the Chiller Water will React with CCS, as well as. the Targeted Pathogens - Fresh Solution is Required for Best Results
- Best Results Are: Greatly Reduced Pathogen Counts, Better Storage Characteristics, Increased Employee Safety, and, Shelf Appeal (No Browning of Product)
- Next Step is Packaging and Shipping after USDA Approval

USDA APPROVED PRODUCT AND WITH PROVEN RESULTS

THERE IS NO RISK!

CDC Recommended

USDA Approved

FSIS Approved

EPA Registered

FDA Cleared

CCS Solution is a Certified ISO Plant and OMRI Certified

*** Note The Following Information Provided By: Jennifer Green - FSIS USDA

FCN No. (sorted Z-A)	Food Contact Substance
2133	Hypochlorous acid (CAS Reg. No. 7790-92-3).
1811	Hypochlorous acid (CAS Reg. No. 7790-92-3).
1606	Hypochlorous acid (CAS Reg. No. 7790-92-3) diluted from concentrated solution.
1470	Hypochlorous acid (CAS Reg. No. 7790-92-3) electrolytically generated in dilute solution. **REPLACES FCN 692**
1176	Hypochlorous acid (CAS Reg. No. 7790-92-3).
692	REPLACED BY FCN 1470

*** Note: Information Provided By Jennifer Green - FSIS USDA

Which Processing Plants are Currently Using a HOCL Solution?
Info from Food Safety Inspection Log:

16-OLR-2079-N-A,B,C Tecumseh Farms Smart Chicken LLC Hypochlorous Acid for Use in On-line Reprocessing Systems in Poultry Establishments (Citric Acid may be Added for Chlorine Tank Descaling).

08-OLR-0281-N-C Tyson Foods Hypochlorous Acid On-Line Processing Agent Cabinet (OLPAC) System Regulations Amended October 20,

12-ING-0868-N-A FDA Hypochlorous Acid on Meat, Poultry and Egg Products (FCN 1176)

Information Provided By: Jennifer Green - FSIS USDA

FDA U.S. FOOD & DRUG ADMINISTRATION

Inventory of Effective Food Contact Substance (FCS) Notifications

The database lists effective premarket notifications for food contact substances that have been demonstrated to be safe for their intended use. The list includes the food contact substance (FCS), the notifier, the manufacturer of the FCS, the intended use, the limitations on the conditions of use for the FCS and its specifications, the effective date, and its environmental decision. Under section 409(h)(2)(C) of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 348 (h)(2)(C)) a food contact substance notification (FCN) is only effective for the manufacturer or supplier identified in the notification. Persons who market a FCS based on an effective notification must be able to demonstrate that the notification is effective for their food contact substance. All persons who purchase a food contact substance manufactured or supplied by a manufacturer or supplier identified in an effective notification may rely on that notification to legally market or use the food contact substance for the use that is the subject of the notification, consistent with any limitations in that notification. Additional information about Food Contact Substances and the definitions of Food Types and Conditions of Use are available on the FCS Program page.

Search and display hints:

- Select the FCN number below to view the record details, including its intended use, limitations, specifications, and the Final Environmental Impact Decisions.
- To sort by a specific field, click on the column header for that field.
- To browse the records, use the Show All, First/Previous/Next/Last, and Jump To options at the bottom of the data table.
- To search for a specific substance/term, enter the term in the Search box and select Show Items to display only those records that contain the selected term. (The search results also includes terms not shown on this page, but included in the full record on the detail page.)
- The search results will return hits of records containing words that include the search term. For example, a search for the color ***red*** will return results that include terms such as *red*uce, ing*red*ient, and manufactu*red*. To limit results to only the searched term, place a space before and after the word in the basic search or in the advanced search “this exact phrase” field.

Information Provided By: Jennifer Green - FSIS USDA

II. BACKGROUND

A. FSIS first established performance standards in 1996 as part of the "Pathogen Reduction; Hazard Analysis and Critical Control Point (PR/HACCP) Systems Final Rule" (61 FR 38806). Since then, it has updated the performance standards for poultry products through *Federal Register* notices.

B. As part of its *Salmonella* Verification Program, FSIS assesses whether establishments meet pathogen reduction performance standards for *Salmonella* in young chicken and turkey carcasses, raw chicken parts, and NRTE comminuted chicken and turkey products, as shown in Table 1:

Table 1. *Salmonella* Poultry Performance Standards announced in a 2016 Federal Register Notice (81 FR 7285)

Product	Performance Standard*	Maximum Acceptable Percent Positive	Minimum Number of Samples to Assess Process Control**
Broiler Carcasses	5 of 51	9.8%	11
Turkey Carcasses	4 of 56	7.1%	14
Comminuted Chicken	13 of 52	25%	10
Comminuted Turkey	7 of 52	13.5%	10
Chicken Parts	8 of 52	15.4%	10

*The performance standard is represented as a fraction of maximum allowable positives over the target number of samples collected and analyzed in a 52-week window.

**FSIS must analyze at least this number of samples in a single 52-week window in order to categorize an establishment for the standard listed.

Information Provided By: Jennifer Green - FSIS USDA

III. PERFORMANCE CATEGORIZATION

A. As FSIS announced in the November 9, 2018 *Federal Register* (83 FR 56046), "Changes to the *Salmonella* and *Campylobacter* Verification Testing Program: Revised Categorization and Follow-Up Sampling Procedures," *Salmonella* performance standard category determinations are based on a minimum number of *Salmonella* sample results being available from a 52-week moving window. As the *Federal Register* notice outlines, the category definitions under verification sampling are as follows:

- **Category 1:** Establishments that have achieved 50 percent or less of the maximum allowable percent positive during the most recently completed 52- week moving window.

- **Category 2:** Establishments that meet the maximum allowable percent positive but have results greater than 50 percent of the maximum allowable percent positive during the most recently completed 52-week moving window.

- **Category 3:** Establishments that have exceeded the maximum allowable percent positive during the most recently completed 52-week moving window.

B. Individual windows are defined as 52 consecutive Sunday-to-Saturday weeks. Category status is determined based on the most recently completed window.

Information Provided By: Jennifer Green - FSIS USDA

CCS SOLUTION
Results from Proven SOP's

- Processed Poultry Moves from Areas of ***Highest*** Potential Contamination to the ***Lowest*** Potential Contamination
- CCS has been Approved for Use in Food Processing by the USDA and FSIS
- It has also been Cleared for Use in Hospitals by the EPA, Cleared by the FDA for Rx Human Wound Care. By Using CCS in your Existing Microbial Mitigation Protocols, you will Find Acceptable Results with Less Environmental Concerns
- Our CCS Solution has been Shown to Degrade Genetic Material of Pathogens, Virus, Gram-negative and Gram-positive Bacteria and Fungi

Eradication of Salmonella and Campylobacter on Raw Chickens Using CCS HOCL

Following are the Results from a Poultry Test for the Eradication of Salmonella and Campylobacter

FSNS®
Food Safety Net Services

JULY 27 2021

PROJECT OVERVIEW AND QUOTE

Preliminary Study to Determine the Efficacy of HOCl on *Salmonella enterica* spp. and *Campylobacter* spp. Inoculated onto Whole Raw Chickens

PREPARED BY:

Manoj K. Shah, Ph.D.
Research Scientist
Food Safety Net Services, Ltd.

FSNS
Food Safety Net Services

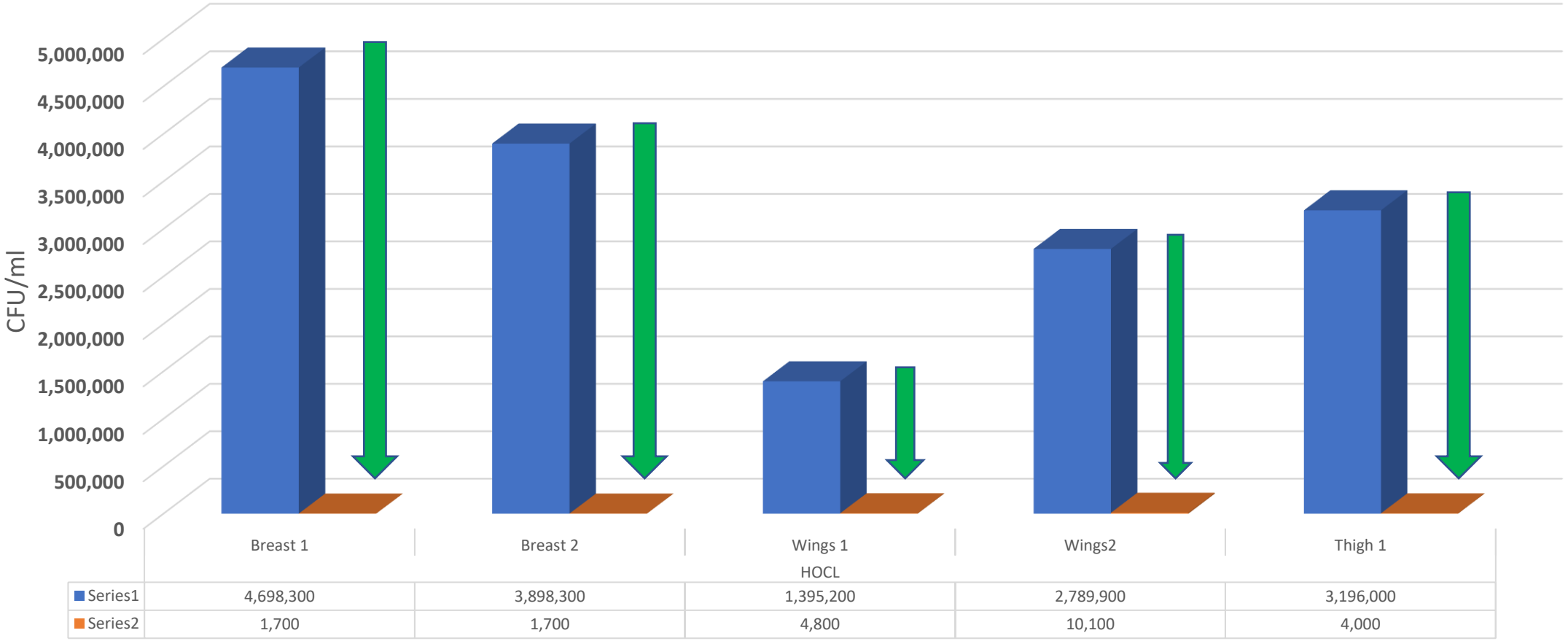
PROTOCOL OVERVIEW

CC Solutions (CCSSOL) desires to investigate the reduction of *Salmonella enterica* spp. and *Campylobacter* spp. on whole raw chickens when treated using HOCL. CCSSOL desires to conduct an In-lab treatment study on one whole chicken using HOCL at 50 ppm. Details of the treatment process and sample collection steps are outlined below. The preliminary study should help CCSSOL determine the efficacy of the HOCL treatment after which a validation study can be further conducted on a larger sample size. To address this objective, Food Safety Net Services, Ltd. (FSNS) will conduct the challenge study outlined below.

- CC Solutions shall provide a total of 8 whole chickens, including all the chemical solutions. Four chickens for inoculation with *Salmonella* spp. i.e. One whole chicken for pre-water control, one for pre-HOCL control and one for water treatment process and one for HOCL treatment process. Similarly, four chickens for inoculation with *Campylobacter* spp. i.e. One whole chicken for pre-water control, one for pre-HOCL control and one for water treatment process and one for HOCL treatment process.
- Inoculation with the selected pathogens will be conducted with one ml of cocktail at ~10^8 CFU/ml. The one ml of the cocktail will be spread over the whole chicken.
- In addition, CC Solutions shall provide the instructions for preparing the 50 ppm HOCL in 5 gallons of water. The water used for this study will be regular deionized (DI) water.
- The details of the study are outlined below: The treatment will be conducted on cold chicken-retrieved from 4 °C.

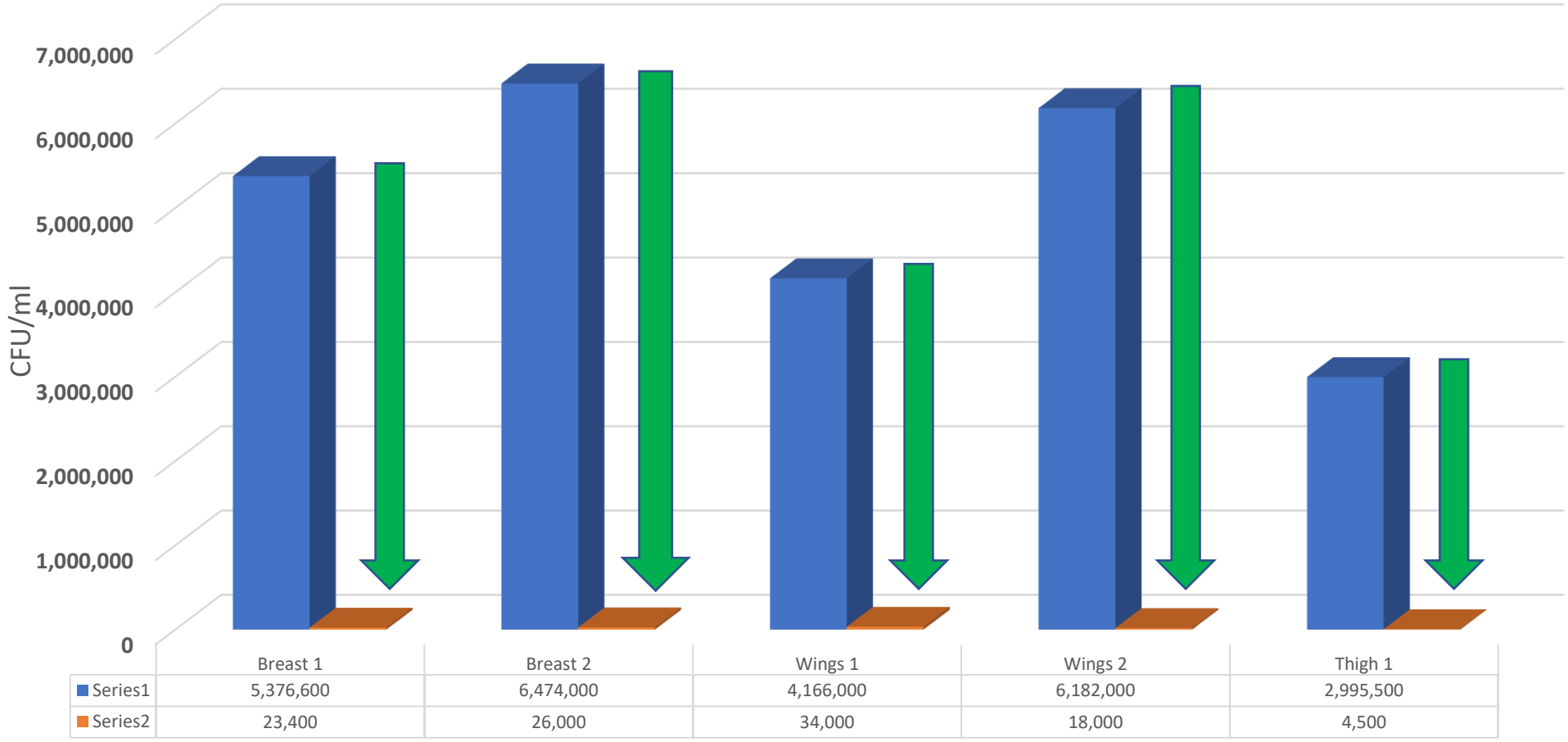
  One set of below test condition will be used *Salmonella* spp. and another set will be used for *Campylobacter* spp.

CFU/ml – 99.7% Average Reduction



Bacterial Counts- Salmonella
Treated 50 ppm of Contagion Control Solutions HOCl

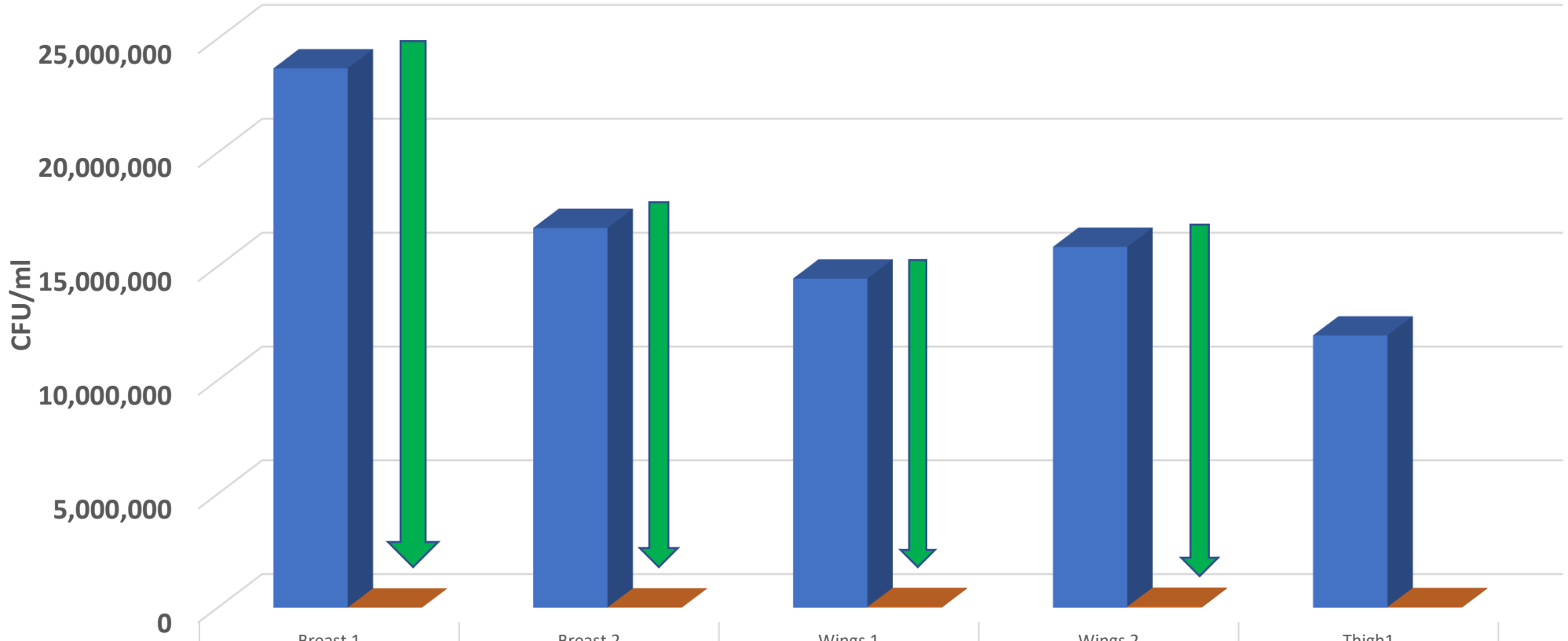
CFU/ml- Average Reduction 99.58%



	Breast 1	Breast 2	Wings 1	Wings 2	Thigh 1
Series1	5,376,600	6,474,000	4,166,000	6,182,000	2,995,500
Series2	23,400	26,000	34,000	18,000	4,500

Bacterial Counts – Salmonella
Treated with 50ppm Contagion Control Solutions HOCl

CFU/ml – Average Reduction 99.84%

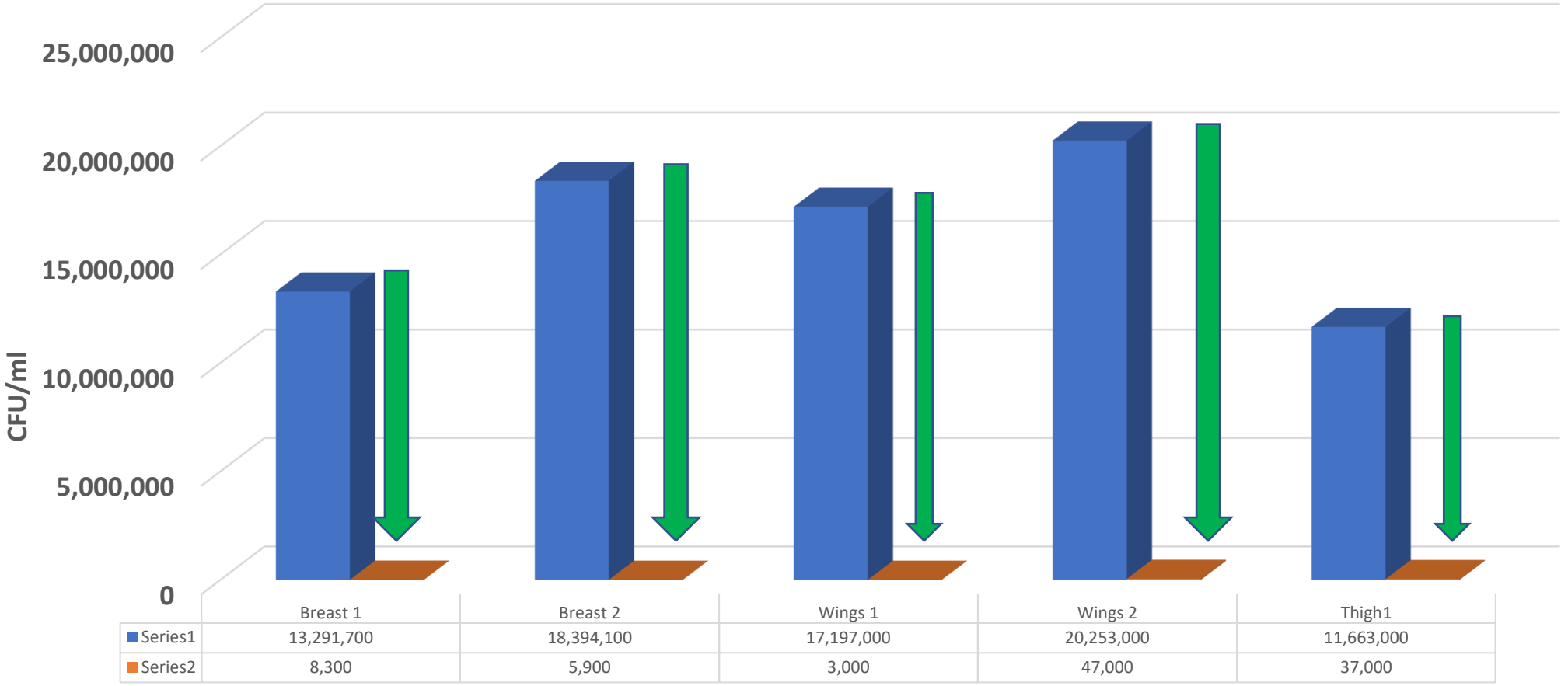


	Breast 1	Breast 2	Wings 1	Wings 2	Thigh1
Series1	23,693,800	16,689,200	14,469,000	15,859,000	11,971,000
Series2	6,200	10,800	31,000	41,000	29,000

Bacterial Counts – Campylobacter

Treated with 50 ppm Contagion Control Solutions HOCl

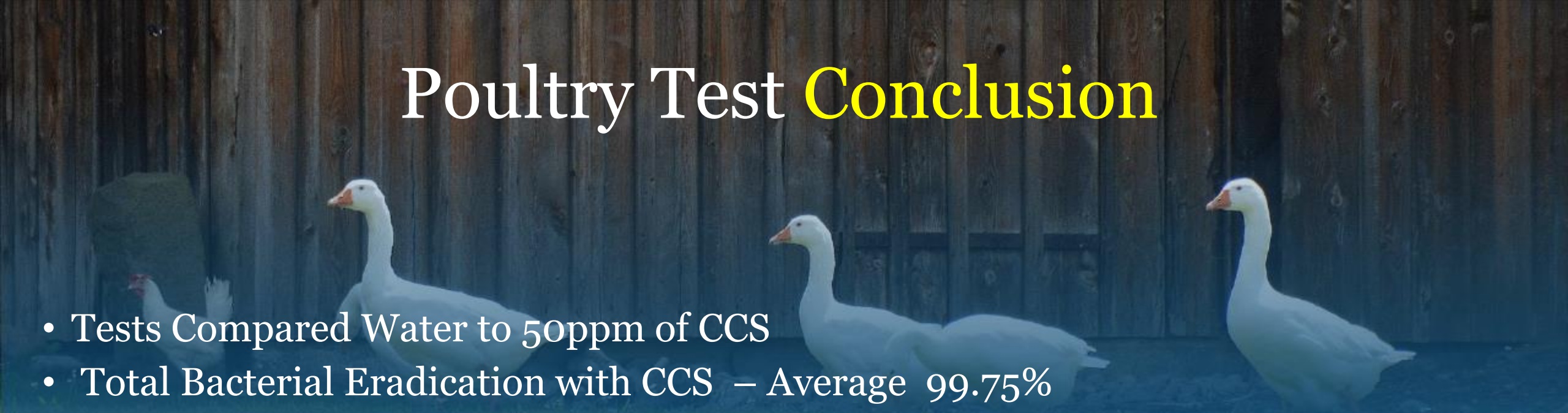
CFU/ml – Average Reduction 99.86%



	Breast 1	Breast 2	Wings 1	Wings 2	Thigh1
Series1	13,291,700	18,394,100	17,197,000	20,253,000	11,663,000
Series2	8,300	5,900	3,000	47,000	37,000

Bacterial Counts – Campylobacter
Treated with 50 ppm Contagion Control Solutions HOCl

Poultry Test Conclusion



- Tests Compared Water to 50ppm of CCS
- Total Bacterial Eradication with CCS – Average 99.75%
- CCS is Proven to be an Effective Disinfectant/Sanitizer for Equipment and Floors and is an EPA Approved “N” List Product
- It has been Proven to be Human Safe at 200ppm and Food Safe at 50ppm
- It can be Used to Clean Raw Chicken and Reduce the Most Dangerous Bacteria at 50ppm
- Kill Rare Average is 99.75% Against ,specifically, Salmonella and Campylobacter
- CCS is a Safe Substitute for PAA or Other Toxic Agents used to Clean Raw Processed Chicken, Meats, Seafood, Fruits, Vegetables and Surfaces

Additional Information

- **Click on the Links, below, for More Info:**
- **Poultry Workers Suffer While Industry Uses Chemicals to Disinfect Your Chicken**
- **Chickens and Cleanrooms – What Do They Have In Common?**
- **Washington Post - Death from Toxic Poultry Chemicals**
- **Chronic use of Hazardous Products Put You, Your Family and Your Business at Risk**
- **Stop Pouring Dangerous Chemicals on Chickens**

Safety First – CCS Works!

FDA Food Contact Notification 1811

Hypochlorous Acid at up to 60 ppm for Produce, Fish & Seafood, Meat and Poultry Sanitation

Hypochlorous acid may be used in processing facilities at up to 60 ppm for use in process water or ice which comes into contact with food as a spray, wash, rinse, dip, chiller water, and scalding water for whole or cut meat and poultry, including carcasses, parts, trim, and organs; in process water, ice, or brine used for washing, rinsing, or cooling of processed and pre-formed meat and poultry products as defined in 21 CFR 170.3(n)(29) and 21 CFR 170.3(n)(34), respectively; in process water or ice for washing, rinsing or cooling fruits, vegetables, whole or cut fish and seafood; and in process water for washing or rinsing shell eggs. Visit https://www.fda.gov/food.

Formal Recommendation
From: National Organic Standards Board (NOSB)
To: the National Organic Program (NOP)

Date: April 27, 2016

Subject: Addition of hypochlorous acid generated from electrolyzed water, as petitioned, at §205.605(b) of the National List

NOSB Chair: Tracy Favre

The NOSB hereby recommends to the NOP the following:

The USDA's Food Safety and Inspection Service Directive 7120.1 "Safe and Suitable Ingredients Used in the Production of Meat and Poultry Products", has approved the use of electrolytically generated hypochlorous acid as a food additive for use on meat and poultry products. It is allowed for use on red meat carcasses down to a quarter of a carcass, whole or eviscerated poultry carcasses, in water used in meat and poultry processing, in poultry chiller water, for reprocessing contaminated poultry carcasses, on giblets and salvaged parts, and on beef primal cuts of beef. Depending on the product sanitized from 5 to 50 ppm free available chlorine can be used.

FDA U.S. FOOD & DRUG ADMINISTRATION

Inventory of Effective Food Contact Substance (FCS) Notifications

FDA Home › Packaging & Food Contact Substances › Food Ingredient & Packaging Inventories › Inventory of Effective Food Contact Substance (FCS) Notifications › FCN No. 1811

Intended Use:	For single use as an antimicrobial agent in an aqueous solution in the production and preparation of whole or cut meat and poultry; processed and preformed meat and poultry; fish and seafood; fruits and vegetables; and shell eggs.
Limitations/Specifications:	The concentration of available free chlorine will not exceed 60 ppm. The aqueous solution containing the FCS may be used in processing facilities as follows: 1. in process water or ice which comes into contact with food as a spray, wash, rinse, dip, chiller water, and scalding water for whole or cut meat and poultry, including carcasses, parts, trim, and organs; 2. in process water, ice, or brine used for washing, rinsing, or cooling of processed and pre-formed meat and poultry products as defined in 21 CFR 170.3(n)(29) and 21 CFR 170.3(n)(34), respectively; 3. in process water or ice for washing, rinsing or cooling fruits, vegetables, whole or cut fish and seafood; and 4. in process water for washing or rinsing shell eggs. When used in water to process fruits, vegetables, ready-to-eat meats, and fish and seafood products intended to be consumed raw, the treatment will be followed by either a 10 minute drain step or a potable water rinse to remove, to the extent possible, residues of the FCS.
Effective Date:	Oct 13, 2017
National Environmental Policy Act (NEPA) Submission:** **FDA Decision:**	Environmental Assessment (in PDF, 857 kB) Finding of No Significant Impact (FONSI)

USDA Food Safety & Inspection Service Directive

The USDA's Food Safety and Inspection Service Directive 7120.1 "Safe and Suitable Ingredients Used in the Production of Meat and Poultry Products", has approved the use of electrolytically generated hypochlorous acid as a food additive for use on meat and poultry products. It is allowed for use on red meat carcasses down to a quarter of a carcass, whole or eviscerated poultry carcasses, in water used in meat and poultry processing, in poultry chiller water, for reprocessing contaminated poultry carcasses, on giblets and salvaged parts, and on beef primal cuts of beef. Depending on the product sanitized from 5 to 50 ppm free available chlorine can be used.

USDA's "Regulations Governing the Voluntary Grading of Shell Eggs" explains the minimum facility and operating requirements for shell egg grading and packing plants regarding shell egg cleaning operations. This includes specific temperature requirements for washing and rinsing eggs as well as the chlorine sanitizer that will be used (USDA, 2008).

Safety Should Be #1 –
READ YOUR CURRENT LABELS!
DO THEY HAVE THESE WARNINGS?

- If Medical Advice is Needed, have Product Container or Label, at Hand
- Wear Protective Gloves/Protective Clothing/Eye Protection/Face Protection
- Wash Thoroughly after Handling
- IF IN EYES: Rinse Cautiously with Water for Several Minutes, Remove Contact Lenses, if Present and Easy to Do – Continue Rinsing
- Get Medical Attention

What is a Premises Liability Lawsuit?

THL Tor Hoerman Law, LLC
People for Justice. Justice for People.

A Premises Liability Lawsuit is a Legal Action taken against a Property Owner for Failing to Meet their Duty of Care in providing a Reasonably Safe Premises for Individuals who are Given Consent to Enter the Owner's Premises

Many People do not Realize that these do not Define the Full Spectrum of Your "Properties"

Other Examples of Premises Include:

- Business Owners can be held Accountable for their Business Properties
- Contractors are Accountable for their Worksites
- Landlords can be held Accountable for their Tenant's Living Space

Chemical Burn

Chemical burns: Symptoms, diagnosis, and treatment

CONTAGIONCONTROL™ SOLUTIONS

Contact:
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4100 Spring Valley Road, Suite 920, Dallas, Texas 75244

CCS is a full-service company with analysis of facility, recommendations, and on-site training to ensure product is being used per recommendations. We also provide year-round assistance with employees, training staff, etc. at no charge for current CCS clients.
CCS has a full staff of chemists, physicians and trainers.