

Food Engineering Technology for Food Safety

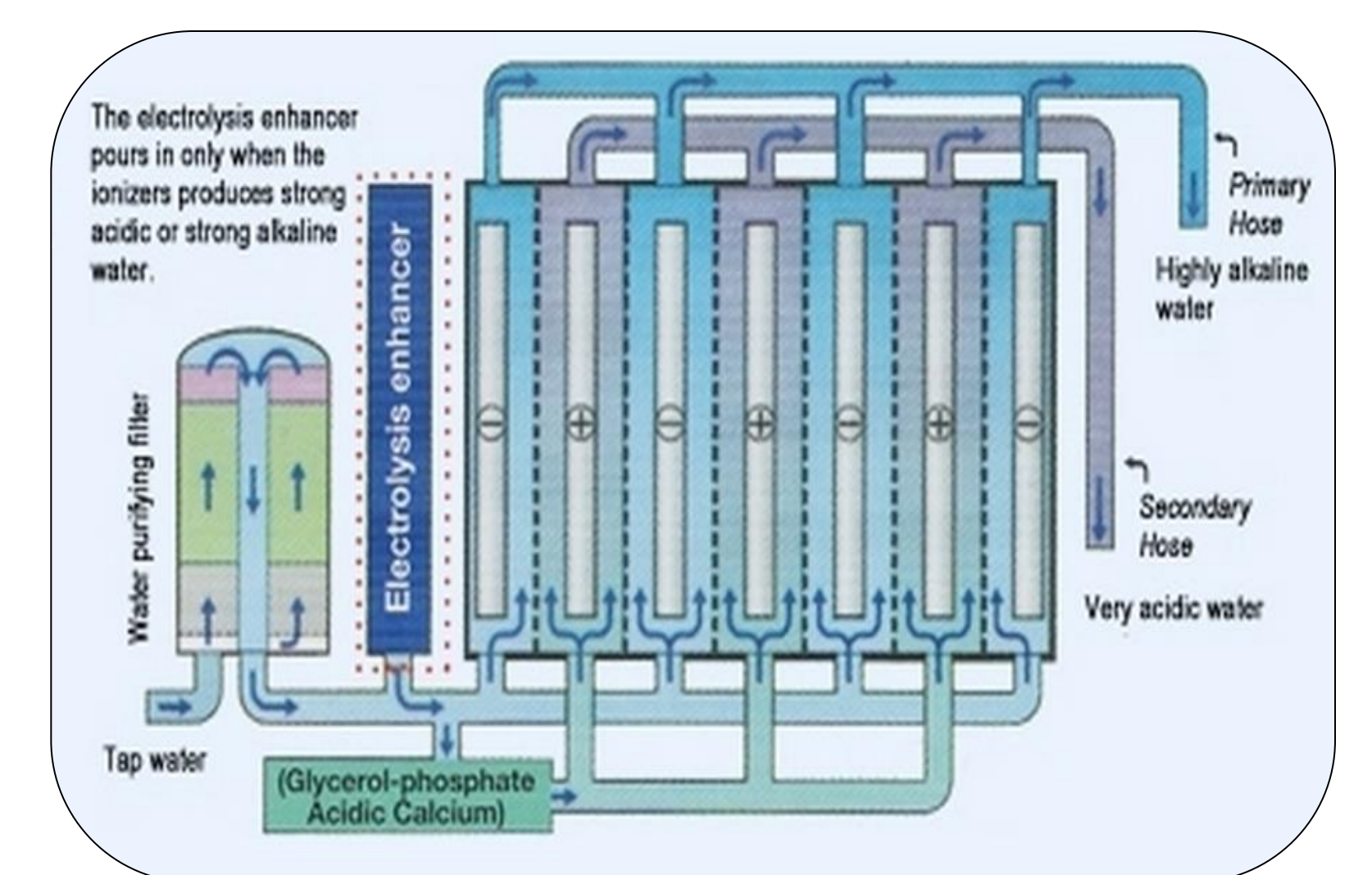
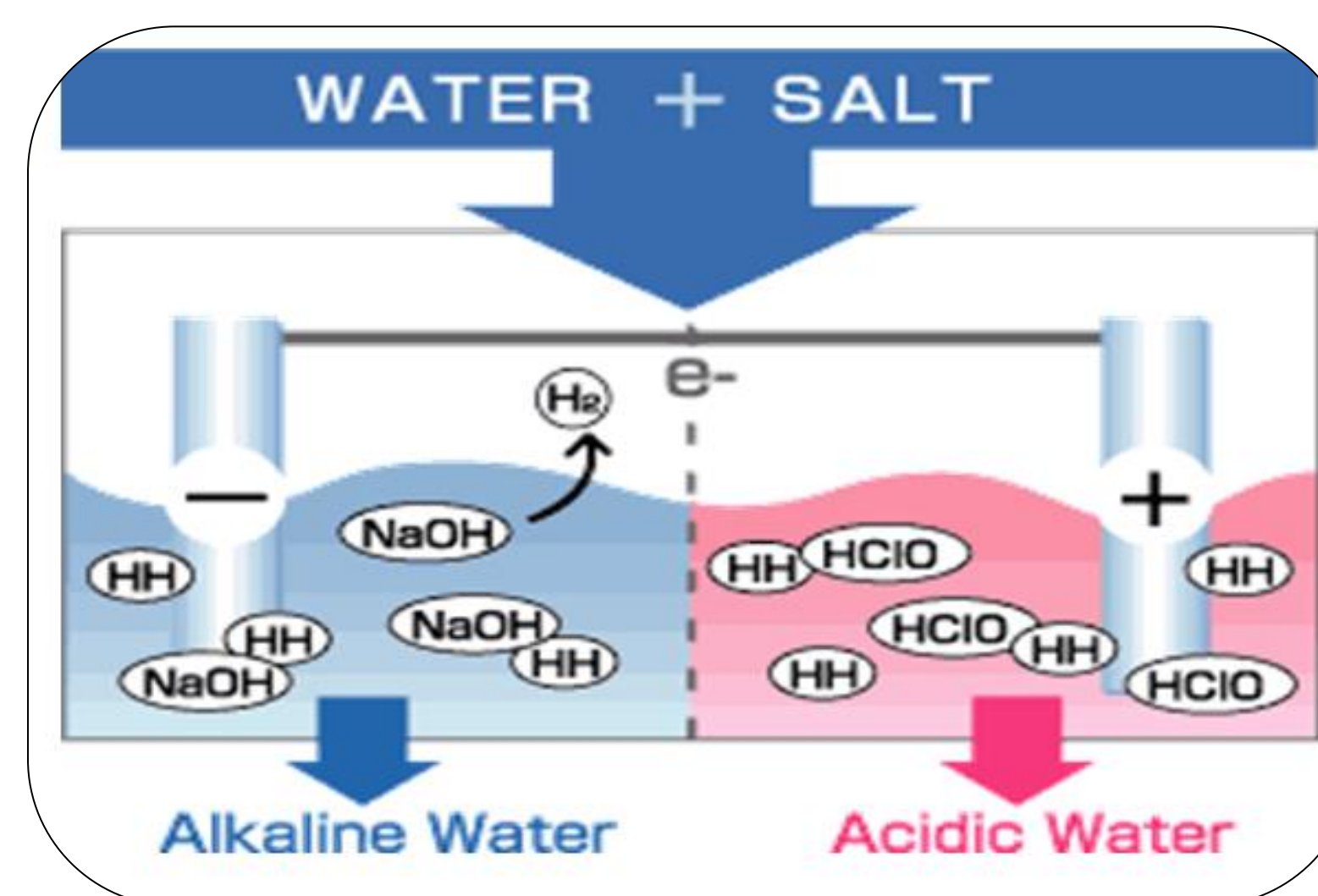
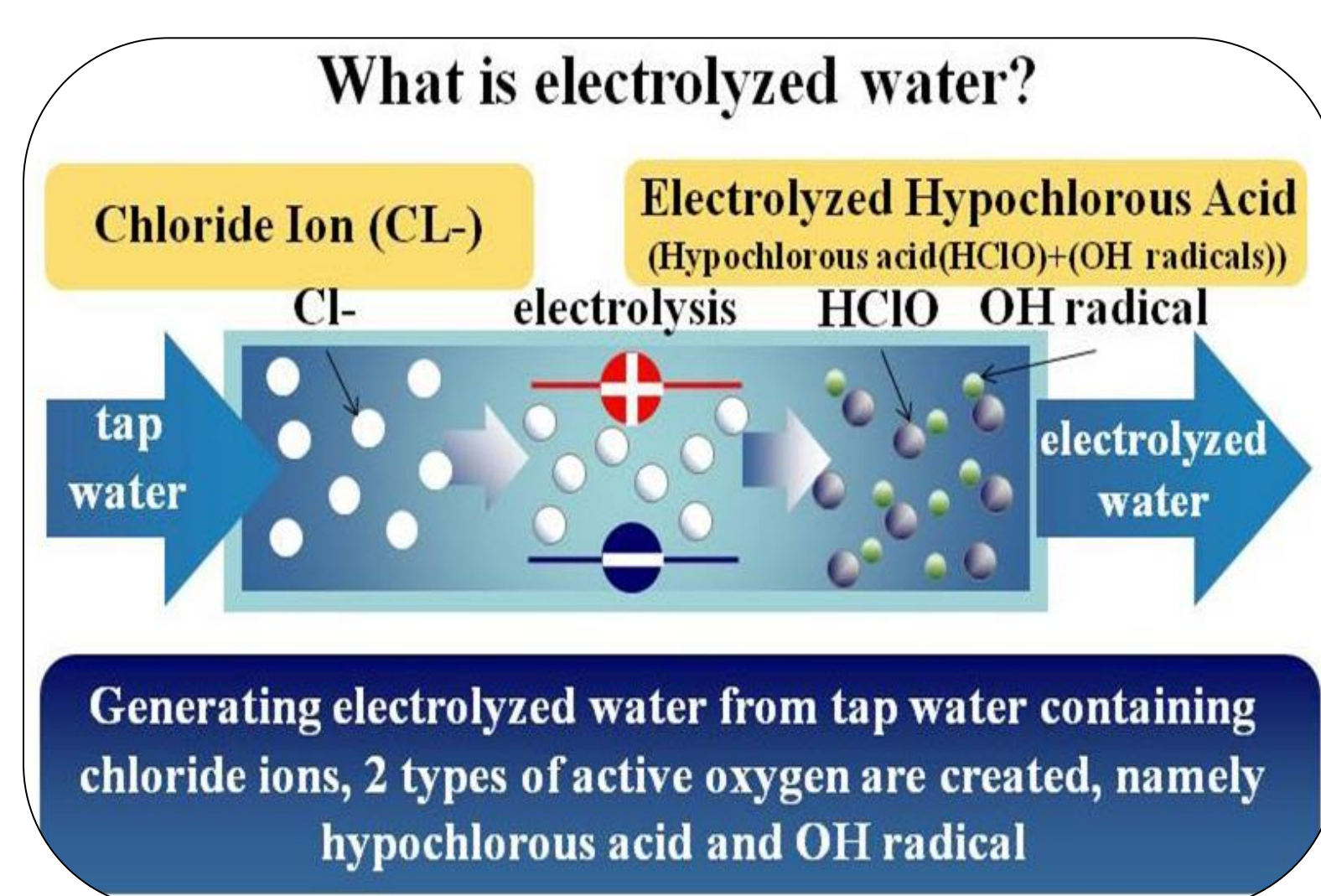
Emerging “Green” Process: Electrolyzed Water (Super Water) to Remove Pathogenic Bacteria, Pesticide Residue, Mycotoxins, Fungal Mold from Raw Material Surfaces for Food Safety Applications

Major Advantages:

- ❑ Effective removal of pathogenic bacteria, such as *Escherichia coli* O157:H7, *Listeria monocytogenes*, *Bacillus cereus*, and *Salmonella* sp., and hepatitis B virus and human immunodeficiency virus, germinations of many fungal species;
- ❑ No adverse impact on the environment and no toxin-chemical residue in the end products;
- ❑ No change of the texture, appearance, color, flavour, taste of the food and material;
- ❑ Extension of storage time and shelf life of fruits and vegetables;



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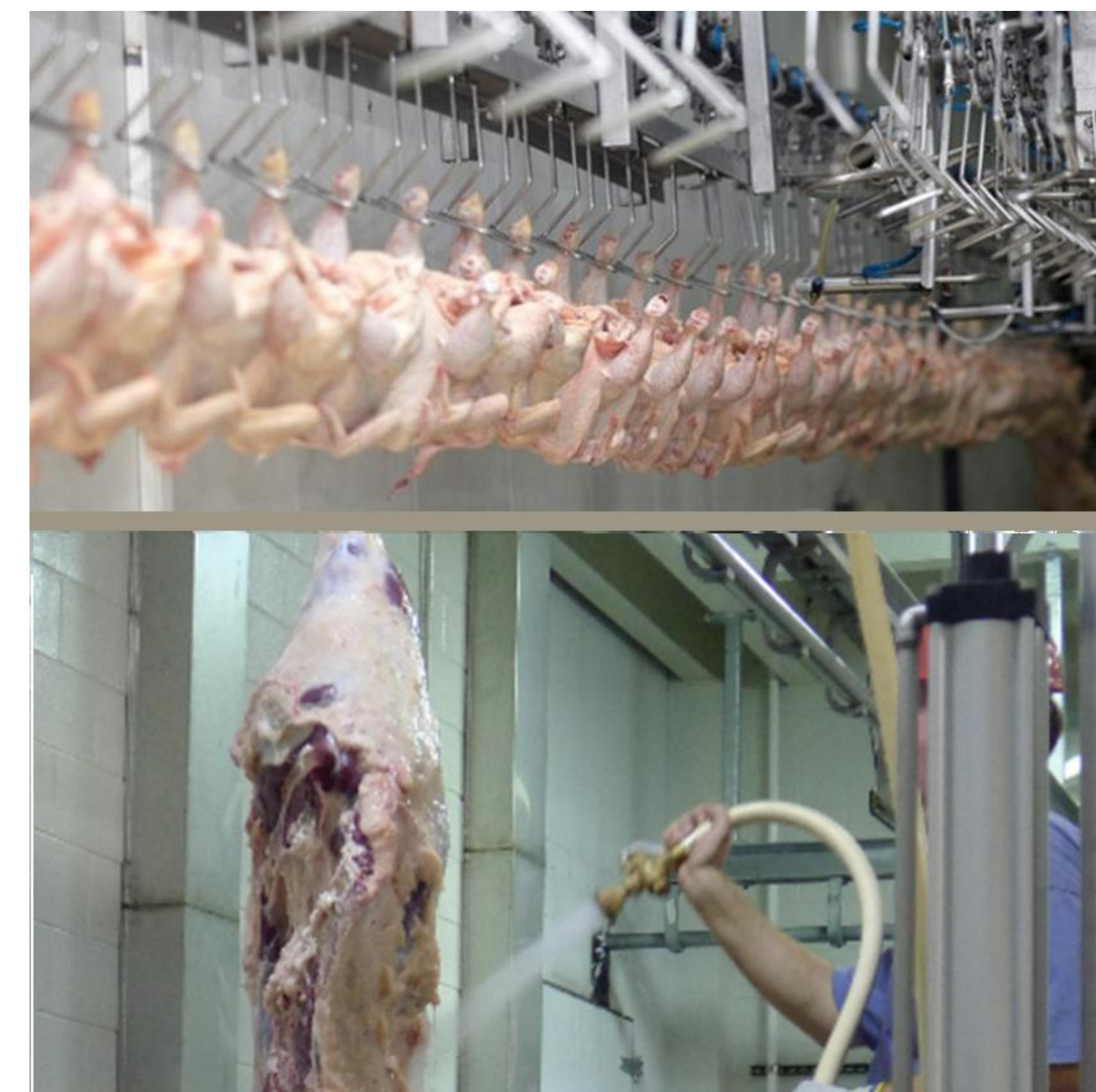
Applications:

- ❑ An innovative effective antimicrobial agent characterized by its high efficiency, broad antimicrobial spectrum, low cost, high level security, and non-toxic residue, has been broadly used remove pathogenic bacteria, pesticide residue, mycotoxins from surfaces of poultry carcasses, beef, pork, seafood, eggs, alfalfa seeds, leafy green vegetables, sprouts, fruits (pears, apples, peaches, tomatoes, strawberry, etc.), and food processing equipment, etc.

Spraying super water on minimally-processed fruit and vegetable products (Fresh-cut) before sent to supermarkets



Spraying super water on the surfaces of raw meat products of poultry, pork and beef to remove pathogen



Extend storage time and shelf life of fruits and vegetables



On-going Projects:

- ❑ Development of innovative “green” processes of electrolyzed water to remove pathogenic microorganisms from surfaces of vegetables (Collaborative U of Guelph Project);
- ❑ Freshness indicator for intelligent packaging applications (Collaborative OMAFRA Project);