



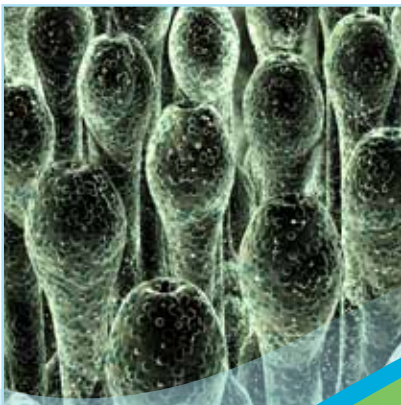
Natural ECA Hygiene Solutions **POULTRY INDUSTRY**



Experience

Depth of Knowledge

Flexibility





Food safety is a major issue in the poultry industry worldwide. The highest food safety standards are most frequently set by countries that are becoming increasingly dependent on imports. This makes food safety a global issue which cannot be solved by implementing a HACCP program in the processing plant only. It affects the whole production chain.

Unlike conventional chemicals, Radical Waters ECA technology is able to provide a holistic solution to problems generally associated within the poultry industry starting from pre-processing (hatcheries & broilers), to general processing (abattoirs) and also including post-processing (value-added and further processing).

VALUE CREATION

Pre-Poultry Processing

BROILERS	LAYERS/HATCHERIES
Treatment of Feed	Disinfecting and decontamination of eggs
Decontamination of Drinking water	Air disinfection
Kills Pathogens pre-pylorically	Replacement of formaldehyde

Here the following advantages can be obtained:

1. Increased hatchability.
2. Reduction of mortalities & culls.
3. Evenness of growth higher flock weights (infection elimination - reduced lagging).
4. Elimination of the use of antibiotic water medication (helps control stress related mortalities).
5. Growth enhancement (improved feed conversion and boosting of immune system).
6. Can also limit to treat drinking water to day 1 - 7 and then again the last 2 days before catching to reduce amount of *Campylobacter jejuni* contamination during processing. Treatment of water throughout entire growth process is recommended for optimal results.

Poultry Processing

The rapid processing rate within poultry abattoirs makes it difficult to control bacterial contamination of carcasses. Contamination can result from the environment, production processes, equipment, humans as well as cross contamination from carcass to carcass. Here chemical disinfection products need to comply with a number of minimum performance standards within a poultry processing facility in order to produce high bactericidal activity without adversely affecting food quality. ECA exhibits a unique mechanism of biocidal action which is distinct from that of conventional chemicals. Micro-organisms can not build up a tolerance to this electrical charge based technology.

Increased hatchability

Higher flock weights

non-toxic

Reduction of mortalities

The following pathogens are generally associated within the poultry industry:

1. *Salmonella*: Generally introduced by live poultry into the plant. Contamination during Scalding & Defeathering processes.
2. *Clostridium perfringens*: Generally introduced by the environment (soil/intestines/faecal matter). Mainly present on processed meat in the form of spores.
3. *Staphylococcus aureus*: Carried on skin surfaces & intestines of poultry. Contamination during defeathering, chilling & evisceration.
4. *Campylobacter jejuni*: Poultry are symptomless carriers – cooling water and air also important. Contamination higher in fresh than in frozen products.
5. *Listeria monocytogenes*: Isolated from soil, vegetation & faeces. Able to multiply at refrigeration steps and more heat resistant than Salmonella.

ECA solutions offer a unique and patented resolution to the majority of the problems intrinsic to poultry abattoirs and processing plants:

- Micro-organisms cannot build up a tolerance to ECA.
- Non-toxic & safe to handle
- Consumer taste restraints diminished
- Flexibility of application routes – immersion, spraying, fogging, infusion, etc.
- Natural product (water and salt) – reverts back to benign state
- Improved food product quality and extended shelf life
- Broad microbial capacity – bacteria, mycobacteria, viruses, fungi, spores and protozoans.
- Eliminates biofilm and prevents re-growth

Post-Poultry processing

Pathogens identified in the Further Processing Plant (FPP):

1. *Listeria monocytogenes*: Leading pathogen concern on ready-to-eat (RTE) meat products.
2. *Escherichia coli O157:H7*: Main pathogen of concern in raw ground beef.
3. *Salmonella enteritidis*: Leading cause of illness associated with egg-related salmonella foodborne illnesses.

Overall Advantages of ECA in the Poultry Post-Processing Industry:

1. Eradication of spoilage micro-organisms.
2. Shelf life extension.
3. Decontaminated offal and sausage casings which result in extended shelf life of value-added products.
4. General carcass decontamination.
5. Working surface disinfection.
6. General food safety, HACCP compliant.

*Customer Quote:
“ ECA is used at a low concentration as a final rinse on portions prior to packing for several customers in order to lower microbial loads and extend shelf-life. For this purpose, ECA gives us very good results and is very user friendly.”*

Chubby Chick SA (Fouries Farms)



CONTACT US:

RADICAL WATERS – SOUTH AFRICA

1, 17 Indianapolis Street, Kyalami Business Park
Johannesburg, South Africa, 1684
Tel: +27 11 466 0610
Fax: +27 11 466 0114

RADICAL WATERS INTERNATIONAL

137 Brent Street, Hendon Central,
London NW4 4DJ, England
Tel: +44 20 8457 2912
Fax: +44 20 8711 5384

GLOBAL SALES DIVISIONS

Email: info@radicalwaters.com

SOUTH AFRICA

Tel: +27 11 466 0610

UNITED STATES

Tel: +1 305 206 8278

AFRICA & MIDDLE EAST

Tel: +27 11 466 0610

ASIA & OCEANIA

Tel: +86 150 000 07463
or: +27 11 446 0610

LATIN AMERICA

Tel: +56 9 798 88487

EUROPE

Email: orders@radicalwatersint.com
Tel: +27 11 466 0610

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