



THE CREDENCE POULTRY DISINFECTION PROGRAMME

Introduction

Control of diseases in the poultry industry is necessary for compliance with consumer and regulatory demands, and for increased profitability. Good animal husbandry and effective control of environmental conditions are vital for producing healthy disease free stock and produce. This can only be achieved by having clearly defined and effective biosecurity programmes. It is recognised by the industry that such programmes need to be based on preventative measures rather than curative reactions to outbreaks, for maximum security and profitability.

Implementation of effective disinfection into these programmes is of paramount importance. Two basic programme criteria must be met. Disinfection programmes must:

- Be practical, easy to understand and implement.
- Use wide-spectrum disinfectants, verified to kill microorganisms of concern.

The CREDENCE Disinfection Programme

A system known as the Hazard Analysis Critical Control Point (HACCP) system is now recognised internationally for providing the most secure method of designing and implementing food safety programmes, from farm to fork. The system follows seven basic principles, which identify, monitor and control potential hazards in the food safety chain. These seven principles are:

- 1) Conduct a hazard analysis by identifying all potential food safety hazards at each step in the production process.
- 2) Identify the points in the process which are critical for control and monitoring – these are known as Critical Control Points (CCPs).
- 3) At each identified CCP the critical control limits are established and set e.g. water temperature, *Salmonella* count etc.
- 4) Monitoring procedures are established to ensure that the critical limits established at each control point are being met.
- 5) Procedures are implemented to take corrective action if a critical limit goes out of control.
- 6) Verification procedures are established to ensure that the system is working properly.
- 7) Documentation is necessary to record the proof of effectiveness of the system.

The CREDENCE Disinfection Programme has been designed and validated to be consistent with HACCP system principles, by addressing the disinfection needs at critical control points in poultry production.

This disinfection programme covers:

- the provision of safe drinking water.
- routine disinfection.
- terminal disinfection for broiler, breeder layer and turkey finishing houses, and hatcheries.
- egg disinfection, incubators and hatchery rooms.

Drinking Water Disinfection

Water is the most important nutrient for poultry development, but the monitoring and provision of safe drinking water is often overlooked. Disinfection of the water is vitally important to ensure the health of the flock. Studies show that **CREDECENCE** treated water leads to less mortality, improved weight gains, better feed conversion ratios, improved laying performance and egg quality.

Water Disinfection:

The water should be continuously disinfected, either by hand dosing or by the use of auto-dosing systems (details of which are available from Agil). The water is dosed to a sufficient level to achieve a residual 'free available chlorine' level of about **0.5ppm** (mgs per litre) at the last drinking water point in the line. The 'free available chlorine' level can be simply measured by using Free Chlorine Test Strips. Where the residual 'free available chlorine' level cannot be measured, then a dosage of **1.5 to 3ppm** has been shown to be effective in clear water, and **4 to 6ppm** in dirty water. This will keep the water disinfected and help prevent the build up of biofilm and algae.

The entire water system should always be kept under positive pressure, with the pipework always full of treated water.

When administering medicaments etc. in the drinking water, the **CREDECENCE** should be neutralised. In conjunction with the medicaments, 2.5gms. of skimmed milk (powder) per litre is recommended to be added to the water at a point in the system after it has been disinfected. The milk neutralises the **CREDECENCE** and also colours the water, showing when the medicated water comes on-line and off-line.

Routine Disinfection

- 1) Foot Baths:** All personnel should use footbaths at the entrance point to each house, and on leaving the site. Use **CREDECENCE** at a dosage of **1000ppm**, and replenish regularly (at least twice per week).
- 2) Vehicles:** Wheel dips should be provided for entrance and exit to the site. Use **CREDECENCE** at a dosage of **1000ppm**, and replenish regularly (at least twice per week). Transport vehicles and equipment should be thoroughly cleaned and then disinfected with a **CREDECENCE** solution of **500ppm** between each run.
- 3) Entrance to Poultry Houses:** Daily wash and disinfect the area immediately outside the entrance to each poultry house using a **CREDECENCE** solution strength of **500ppm**.
- 4) Roof Spraying:** During hot weather periods, where water is used to cool houses by spraying or sprinkling it down the roof, it should be treated with **CREDECENCE** at a dosage of **5ppm**.
- 5) Misting / Fogging:** Misting or fogging is sometimes used to reduce aerial cross infections between birds, or to minimise the effects of hot weather, provided it does not cause high humidity levels, which cause stress with the birds. The water used should be treated with **CREDECENCE** at a dosage of **5ppm**.
- 6) Hand Washing:** It is necessary to wash hands in a disinfectant solution at certain critical points e.g. before collecting eggs. Use **CREDECENCE** solution strength of **100ppm**.

Terminal Disinfection

- 1) Remove all birds, movable equipment and food. Hang up all fixed, adjustable equipment, such as the feeder and water systems.
- 2) Brush, blow or vacuum all dirt and dust from vents, ducts, posts, ledges, light fittings, walkways, steps, equipment or any other areas where organic material from the outgoing batch may be found. Move from top to bottom.
- 3) Remove all litter and debris from the house, scraping where necessary, and remove to a safe point as far away as possible from the house (at least 500m.), where it can be heaped, covered and composted.
- 4) Pressure hose down all items and areas (using a detergent, if necessary). Manually clean difficult areas. The run-off water should be directed to a pit at the site edge, from where it can be tankered away.
- 5) Disinfection should commence as soon as possible after washing. A **CREDECENCE** solution is power sprayed to thoroughly wet all roofline, wall and floor surfaces, including vents, ducts etc. Areas where electrical fittings are exposed should be treated by fogging. Surfaces should be uniformly sprayed at 100 litres of **CREDECENCE** solution per **500** sq.m., and then left to dry off. Move from top to bottom, and back to front. Use a dosage of **500ppm** for porous surfaces (e.g. concrete) and **350ppm** for non-porous surfaces (e.g. tiles).
- 6) Hose down to clean all equipment removed from the house, and then disinfect using a **CREDECENCE** solution of **500ppm**.
- 7) The entire water system should be drained. Where there is algal growth and biofilm accumulation, this should be physically removed from the tanks and the pipework flushed with an acid cleaner (e.g. **SALKIL Liquid**). The entire system should then be flushed out to remove debris. **CREDECENCE** should be added to the header tank at a dosage of **25ppm**, and the entire system filled with the solution, and allowed to stand for 30 mins. The system is then drained and refilled with fresh water.
- 8) Bedding may be introduced 24 hours after spraying is completed.
- 9) For breeder and turkey fattening houses, a second disinfectant spray / fog is recommended after 7 days, before equipment is returned or bedding introduced.

Egg Disinfection, Incubators and Hatchery Rooms

- 1) Eggs should be collected at least 4 times daily – more in hot weather. Cleaning and disinfection should be carried out immediately.
- 2) Floor eggs and nest eggs should never be mixed. Floor eggs should not be incubated.
- 3) Temperature of cleaning and disinfectant solutions is important. Solutions should be warmer than the eggs, so that the egg membrane expands to seal the shell thereby preventing pathogens and solutions from entering the egg.
- 4) Only clean, whole eggs can be disinfected. These eggs should be disinfected by spraying with a **CREDECENCE** solution of **100ppm** at a temperature of 52°C, or by dipping for about 3 mins. at 42°C. It is important to maintain the **CREDECENCE** solution at a minimum strength of **100ppm**.
- 5) Allow the eggs to dry before packing.
- 6) New eggs introduced to setters should be fogged with a **CREDECENCE** solution of **100ppm**, sufficiently to just wet the surface of the eggs
- 7) The water used to humidify the incubators should be disinfected using **CREDECENCE** at a dosage of **5ppm**, to prevent cross infection, algal growth or biofilm build up.
- 8) The floors, walls, tables, shelves etc. of the storage rooms should be cleaned then disinfected each day or shift, using a **CREDECENCE** solution of **500ppm**.

Disease Outbreak Programmes

- 1) The procedures for isolation, cleaning and disinfection should be completed as given in the previous disinfection programmes.
- 2) The **CREDEX** solution strength for disinfection of walls, floors, equipment etc. should be **1000ppm**.

Advantages of CREDEX

- Improved weight gain.
- Mortality reduction.
- Improved feed conversion efficiency.
- Improved egg quality.
- Improved laying performance

Versus liquid / powders

- Unit Dose – Easy to measure.
- Condensed – Lower transport and storage costs.
- Assayable – Product strength determinable.

Versus other chlorine products:

- Less corrosive.
- Lowers pH.
- Ensures deposit free pipework.
- More effective and stable.

Manufacturing

- Modern manufacturing facility
- Regulatory and technical support.
- Quality standards (GMP, ISO9002, FDA, UN reg., WCB).
- HACCP.
- Application programmes.

CREDEX 1000 Dilution Guide

Litres	Solution Strength (ppm Available Chlorine) One Tablet Per Volume of Water					
	5	10	15	100	200	1000
ppm	1000	500	350	50	25	5
Application	Foot Baths, Wheel Dips	Vehicles, Equipment, Porous Surfaces	Non-porous Surfaces	Hand Washing	Water Systems	Drinking Water