Sanitation program for poultry production

Increase your benefits by protecting your livestock
CID LINES, established in 1988, is a Belgian private. Our mission is to guarantee safe food from farm to fork by offering innovative hygiene solutions. We develop and manufacture cleaning agents, biocides and veterinary medicines for the agricultural production, food processing and transport industry. Our corporate identity is based on 3 strong values: entrepreneurship, safety and personal relationships.

In our GLP accredited laboratories, specialized chemists, engineers and pharmacists work on the development and continuous improvement of formulations and processes. The most stringent quality standards (ISO 9001:2008 and GMP Pharma) are being followed in production and quality assurance.

CID LINES has subsidiaries in Poland, France, Spain, UK, the Middle East, China and Latin America and exports to more than 90 countries in 5 continents. This worldwide recognition is your guarantee for quality and return. More than ever, hygiene will be a primary management tool to increase profitability on farms.

Due to the higher animal density on farms and increased productivity of animals, the infection pressure has increased dramatically. Many studies, field trials and experiences have clearly proven that preventive health care is more economic than curative health care. In order to give a solution, CID LINES has developed BIOPROTEXION, a program to ensure food safety on your farm and to increase your benefits.
Find out what biosecurity management can mean for you.

‘Biosecurity’ on poultry farms comprises all measures taken to minimize the risk of the introduction and the spread of infectious agents, thus keeping poultry healthy. By taking measures, poultry farmers try to protect their animals against diseases in the best possible way. ‘In the best possible way’, because even with an excellent management it is impossible to achieve a zero risk of disease outbreaks (Graham et al., 2008; Butcher en Miles, 2012).

When explaining biosecurity, a distinction is made between external and internal biosecurity. External biosecurity has to do with farms keeping in touch with the outside world and trying to prevent disease-causing agents from entering or leaving farms. Internal biosecurity comprises measures which combat the spread of disease on farms.

Disease outbreaks result in major economic losses to the poultry industry, they affect the individual farm but may also affect the whole production chain. Especially when measures such as quarantine or the destruction of whole flocks need to be applied (Carey et al., 2005; Tablante, 2008).

Improving biosecurity at farm level and thus lowering the risk of disease outbreaks, has several positive effects. First there is the safety of the produced animal product (cf. Salmonella problem). Second, there is also an improvement in animal welfare due to less disease. Finally and perhaps the most interesting advantage for the farmer is the financial benefit of a disease-free production cycle. Less disease means less veterinary costs and better production results (Laanen et al., 2011).

A minimum amount of products for a maximum performance!

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CID LINES reserves the right to change products without prior notice. All mentioned products are not necessarily available or registered in every country. Please ask for advice to your local CID LINES distributor.

Additional product information can be obtained on demand: Technical Data Sheet, Material Safety Data Sheet, catalogues, ...

Other packing sizes are available upon request.
The poultry industry has evolved from some back yard rearing to a worldwide industry, consisting of different sectors. These different sectors need their own specialized approach concerning biosecurity. We can provide an integrated solution for each element of the chain with even a limited range of products.
Foot dips

The most discarded and forgotten measurement on the farm – while it is probably the fastest, most simple and cheapest in order to prevent spread of bacteria – is to disinfect footwear and sanitize hands with anti-bactericidal hand soap. A very small effort that really should become an automatism among farmers and workers because recent studies have again clearly proven that farm boots samples are an important risk factor with a *Salmonella* prevalence of 19.7%! (Prev. Vet Med., 2011).

If disinfection baths are adequately used and located on strategic places, they are a good additional measure for the biosecurity of the farm. Additionally, the presence of foot baths draws the attention of staff and visitors to the importance of biosecurity on farm grounds (Amass et al., 2000; Pritchard, 2003).

» Keno X5

The ideal disinfectant to rotate. This peroxide disinfectant has a very fast action (within seconds), ideal for foot dips and animal house disinfection. Very environmentally friendly! Dilute at 1 oz per gal for boot dips. Renew daily. 100% biodegradable.

» Packing: 2.6 gal
After the birds are moved out of the poultry barn, it’s time to start the cleaning protocol. The sooner you start the better. Manure is easier to remove when it’s still moist and the longer a clean and disinfected poultry house is left to dry before the new chicks or poults enter it, the better. Hence very few bacteria and viruses can survive a long period of drought without the presence of organic matter (litter, manure, etc). Within the presence of organic dirt however some micro-organisms can survive up to 60 days in a dry environment. Therefore cleaning is an absolute must! Organic dirt cannot be disinfected.

Removing this organic dirt should be done in the most easy and fastest way possible at an affordable price. Hygiene must be realistic! With the farmer’s real needs in mind and a lot of experience in the field, CID LINES has developed a range of alkaline cleaners which prove their benefits – including superior efficacy and time saving properties – daily on many poultry farms worldwide.

Kenosan combines ultra-strong adhesion power and deep dirt-penetrating capacity at very low dilutions! The high-level formulation guarantees a unique cleaning result in heavy-duty circumstances of the poultry house where even the most dense and dried up dirt (manure, litter, etc.) stands no chance against the dissolving power of Kenosan.

The cleaning action also gets amplified by extended contact time due to the sticky foam that remains attached upon all types of surface. Because the revolutionary sticky foam ensures a long contact time it therefore results in saving money on labor, water and energy. Kenosan delivers this high level cleaning result at 1 - 1 1/2 oz / gal, which makes it very cost effective per cleaned sq ft. Kenosan is safe for materials and environment, also for truck cleaning.

The combo “Kenosan & Virocid” brings economical, effective and practical hygiene solutions to your poultry farm.

Biogel has an extreme adhering power, increases the contact time needed for the chemical action, resulting in an excellent cleaning.

Tornax S Concentrated acid cleaner with good foam generation for descaling. Contains phosphoric acid.

UFC + Powerful cleaner for use on all agriculture housing services, equipment and transportation vehicles.
Disinfection

The goal of disinfection is very clear: achieve a 99.999% microbial reduction. It’s all about avoiding pathogens building up to dangerously high levels. At these high levels they can cause serious health problems for the animals and substantial economic losses to the farmer.

It’s a never ending job that requires a rigorous approach. One cannot be selective about which areas get disinfected and which are not. Bacteria, viruses and fungi will find a stronghold in these ‘forgotten areas’ and finally spread disease through people, poultry, transport, vermin, insects etc. that are passing by these infectious hot spots.

» Virocid®

The world’s most powerful disinfectant.

Virocid is an extremely concentrated disinfectant with a synergistic composition of 4 active ingredients. It has proven records in preventing and fighting disease outbreaks for many years: IB, IBD, Avian Influenza, Salmonella, ALT. It is amazingly effective at very low dilutions (0.25 - 0.5% or 1/3 - 2/3 oz/gal) against ALL microorganisms: bacteria, viruses, fungi.

Virocid is a "broad spectrum disinfectant" according to the EPA registration.

Moreover, Virocid has a long residual action and can be applied in a versatile way (spraying, (hot) fogging, foaming) on surfaces, boot dips, vehicles and equipment. Tested and registered worldwide (EPA, EN, AFNOR, DEFRA, DVG, ...).

The bactericidal, virucidal, fungicidal and sporicidal effect of Virocid is unique in the world and is safe for people, animals and their environment. Virocid complies with MEL (maximum exposure limit). This legislation is about the protection of the human health and the security of the employees against the risks of chemical agents in the working environment. In this regulation they mention that there can only be max. of glutaraldhyde aerosols 0.05 ppm after 15 min of exposure time. The values for Virocid are as followed:

» Virocid sprayed at 0.5% (1:200) → 0.019 ppm
» Virocid foamed @ 0.5% (1:200) → 0.016 ppm

More information available on www.virocid.com!

> Packing: 1.33 gal, 5.3 gal, 55 gal

### Bacteria:

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<th>Dilution</th>
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<tr>
<td>Salmonella enterica (formerly S. choleraesuis)*</td>
<td>1:400</td>
<td>Porcine circovirus type II (PCV-2 cell)*</td>
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<td>Streptococcus aureus*</td>
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<td>Pseudovirus (American BioResearch Laboratories)*</td>
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<tr>
<td>Pseudomonas aeruginosa*</td>
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<td>Porcine Respiratory and Reproductive Syndrome (ARS Laboratories)</td>
<td>1:400</td>
</tr>
<tr>
<td>Corynebacterium pseudotuberculosis*</td>
<td>1:400</td>
<td>Asian Respiratory (Spafas Strain)*</td>
<td>1:256</td>
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<tr>
<td>Avibacterium paragallinarum (formerly H. paragallinarum)*</td>
<td>1:400</td>
<td>Marek’s Disease (Spafas Strain)*</td>
<td>1:400</td>
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### More information available on www.virocid.com!
**Quat Cid**

Quat Cid is a special mix of 2 different Quaternary Ammonium Compounds, EPA registered. Use at 1/2 oz/gal.

- Packing: 1.33 gal, 55 gal

**Keno X5**

The ideal disinfectant to rotate. Keno X5 is a broad spectrum disinfectant that is 100% biodegradable. It decomposes in 3 natural elements: H2O, CO2 and O2. Do not use on copper, brass or vehicles. Use at 2/3 to 1 oz per gallon for surface disinfection.

- EPA registered “broad spectrum disinfectant”.
- Packing: 2.6 gal
Pad Cooling maintenance

To remove algae and slime forming bacteria:

» Initial Treatment

Add Virocid (0.02% or 1 oz / 40 gal) within the system as to acquire the desired results. Virocid is EPA registered for 'control of slime forming bacteria to cooling water systems'.

» Maintenance Treatment

Add Virocid (0.0055% or 1 oz / 150 gal) within the system, continuously, with the help of medicator or treat this way, in general, on weekly basis.

To remove and prevent scale buildup

Choice of 2 methods

1. Add PHO CID to the system @ 1 – 2 oz / gal of water; Let this solution circulate through the system until EC Pads are cleaned; Drain the system and flush with clean water.

2. Foam with TORNAX-S @ 5 – 6 oz / gal on the surface of EC Pads; Allow it to remain for 10 minutes; Rinse off with clean water; Drain the system and flush with clean water.

Instructions for use:

As an acid cleaner in tray and buggy washers: use 3/4-11/2 ounces per gallon.

As a descaler: use 6-8 ounces per gallon.
Drinking water hygiene

Water is involved in every aspect of the poultry metabolism. It plays important roles in regulating body temperature, digesting feed and eliminating body wastes. At normal temperatures, poultry consumes at least twice as much water as feed.

We know how necessary it is to clean and disinfect surfaces, but cleaning the waterlines of the poultry house is at least as important.

Cleaning the waterlines means removing the scale and the organic dirt, a layer that is formed inside the water lines, caused by adding vitamins, medication etc. to the water. It harbors pathogens like *Salmonella*, *E. coli* etc. and impedes the good functioning of medicine, vaccines, etc. Eventually it will even block the nipples and reduce the water flow.

A safe and adequate supply of water is therefore essential for efficient poultry production!
Cleaning of heavy soils and scale

The fastest way a pathogen can spread disease in a farm and affect the majority of your flock is through the drinking water!

Contaminated drinking water can weigh heavily on the immune system of poultry and will cause distress and disease due to the constant exposure to this high infection rate. Salmonella, E coli bacteria, Streptococcus, oocysts (coccidiosis) etc. can be carried easily to the poultry house and each drinking nipple where they eventually are consumed. Implementing a solid hygiene plan on a poultry farm through management, cleaning and disinfection could well be all in vain when drinking water was forgotten or not even included in your hygiene plan.

The biggest problems occur when the drinking line contains heavy soils and inorganic dirt deposits. Within this film harmful pathogens are protected and can multiply. The more mineral deposits such as iron, manganese, calcium etc. present due to hard water, the easier it is for heavy soils including inanimate contaminants to attach itself to the inside edge of the drinking line.

» Cid Clean

Cid Clean is based on 50% hydrogen peroxide in a special stabilized complex that can be used for the cleaning of the drinking system. Efficient removal of heavy soils in the system.

- Packing: 2.6 gal

Use directions: To clean the system use a 3% solution / 1:33 or 4 ounces per gallon of dilution and leave to work in the system for 24 hours.

Cleaning an operating system (animals present): Mix Cid Clean at 2 ounces per gallon of water to make a stock solution and set metering pump at 1 ounce stock solution to 1 gallon of water (1:128).

» Cid 2000

Especially designed for an optimal hygiene of the drinking water. Cid 2000 consists of stabilized hydrogen peroxide (H2O2) and per Acetic Acid. The stabilized peroxide dissolves into water (H2O) and oxygen (O2). The free gaseous oxygen will "scrub" along the heavy soils, release and dissolve it. The acid will dissolve inorganic dirt like scale. (Calcium, Iron, etc...).

To clean the water system, use at 2% dilution
1 to 50 or 2.5 oz/gallon. Leave to work in the system for 12 to 24 hours.

Cid 2000 has a dual action:

1. O2 removes heavy soils
2. Acidification removes scale

The best investment to ensure higher production yield! Tested by the University of Arkansas USA as having the "highest reduction in microbial load".

- Packing: 2.6 gal

» Agrocid Super® Oligo

Agrocid Super Oligo is a liquid feed additive for poultry as an additive in drinking water. Prevents blockage of the drinking nipples, improves production results, prevents build-up. Contains natural copper and zinc for better absorption.

- Packing: 25 - 220 - 1000 kg
Specific disease protocols

**Coccidiosis**

In today’s modern poultry farming, Coccidiosis is one of the most harmful parasitic diseases, especially in broiler chicken. It is caused by a protozoan-type parasite of the genus *Eimeria*. General symptoms are diarrhea, weight loss, dehydration, depression and eventually death. Infection happens through ingesting the infective or sporulated oocysts in the litter, soil, feed or water.

**Kenocox Pro**

Kenocox Pro is a special cleaner based on amines. Kenocox Pro helps to reduce infection pressure in the poultry house. It can be applied on all kinds of surfaces. Kenocox is a unique formula without phenol, safe for users and animals.

- A non-toxic cleaner

**Packaging**: 2.6 gal

**Campylobacter**

*Campylobacter* is the most common cause of infectious bacterial enteritis (food poisoning) in humans worldwide. They are found in the intestinal tract of a wide variety of wild or domesticated animals which show no sign of disease. Infected poultry are a potential reservoir of this zoonosis. *Campylobacter jejuni* is the commonest species found in poultry, but it is not currently considered to be pathogenic in poultry though a *Campylobacter*-like organism is considered to be the cause of ‘Vibrionic Hepatitis’.

In principle, housed poultry can be maintained free of *Campylobacter* infection by consistent application of excellent biosecurity practices.
Salmonella

Salmonellosis is a bacterial disease caused by strains of *Salmonella* and also occurs in humans. Most *Salmonella* infections in poultry show no symptoms. There are two bird specific strains: *Salmonella pullorum* (“Pullorum disease” or “Bacillary White Diarrhoea”) and *Salmonella gallinarum* (“Fowl Typhoid”). Infection happens through environment, equipment, feed and drinking water, insufficient cleaning and disinfecting, people and the chicken themselves.

E.U Zero Tolerance for poultry meat

Regulation (EC) No. 2160/2003 of 17th Nov 2003 on the control of *Salmonella* and other specified food-borne zoonotic agents:

» *Salmonella* should be absent in 25 grams fresh chicken meat from 12/12/2010.

» Also *hatching eggs* fall under this regulation. Positive eggs and day old chicks will be destroyed.

» Suspected positive *consumption eggs* shall be treated in order to eliminate the *Salmonella*, before consumption.

Avian Influenza

Avian Influenza is a viral disease in birds caused by an Influenza virus, type A. Symptoms can vary from a mild disease (little or no mortality) to a highly fatal, rapidly spreading epidemic (Highly Pathogenic Avian Influenza) with acute respiratory diseases, haemorrhages on legs, diarrhoea and death.

Infection can occur through contact with humans or movement of contaminated poultry.
The starting point of “field biosecurity” is the reception of a healthy flock from the hatchery. This also implies healthy breeders and a good biosecurity program both at the hatchery and during the transport of the chicks or poults to the house. This process requires optimal biosecurity conditions to give the chicks or poults a great start!
**Hatchery hygiene**

A hatchery is a central place where the hatching egg is transformed during 21 days into a one-day-old chick or into a one-day-old poult in 28 days. All parameters to make this transformation possible are unfortunately also ideal for the growth of bacteria and moulds: temperature, water, oxygen and nutrients.

Hence, it is more than obvious that efficient hygiene is important in order to minimize harmful bacteria and mould exposure on the egg or the chick.

The start point of hatchery hygiene is obviously a healthy breeder flock. This should be combined with optimal biosecurity. At CID LINES, we have all the products for an excellent biosecurity, from egg to chick or poult.

**Interactive training for hatchery hygiene**

Solutions for a healthy egg disinfection, material friendly cleaning, highly effective disinfection, securing hygienic transfers, hand hygiene, washing crates and trolleys are available through our range of products.

More information about hatchery hygiene and our products is available on our DVD: “Interactive training for hatchery hygiene”, contact your US sales representative.