

CID LINES[®]



**WE
MAKE
HYGIENE
WORK**



At CID LINES, we believe that hygiene is health. And that health, in turn, is the key to more profitability and sustainability. In agriculture, healthy animals ensure a higher return on investment for farmers. In the food industry, health and safety lead to better business, in line with all regulations. Overall, end consumers will always benefit from a healthy food chain, leading to greater wellbeing.

That's why we make hygiene work. And we do it in the most effective way, as a trusted partner of farmers and food professionals. Not only do we offer a broad range of products for specific purposes, we also give advice that's fully tailored to each situation and every step in the chain. To come up with the right hygiene solutions, we build solid relationships with our distributors, offering them continuous support.

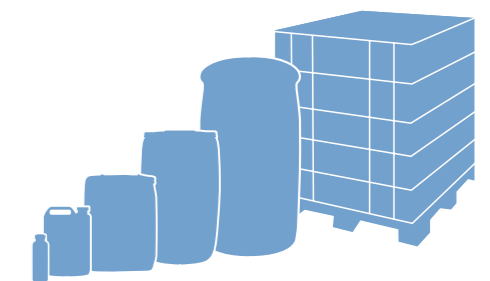
Moreover, we always stay ahead by investing in research and development and by sharing our innovations with our partners. This way, we make sure that they don't need to worry. Because we help them focus on what's truly essential: keeping their business healthy.

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CID LINES

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Multiple packaging available.
Ask your CID LINES dealer for the correct packaging in your country.

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.

UDDER HYGIENE

Udder hygiene

There are three risk periods when cows are more vulnerable to be infected with mastitis:

- during milking, if teat preparation is not optimal
- after milking, if a cow has open sphincters and lies down in a dirty area
- during the dry period

During milking, cows "share" the milking machine and it can be a source of contamination from one cow to another cow or from one quarter to another quarter. That's why cleaning and disinfecting the teats before milking is very important to reduce the infection pressure.

TEAT DIP - PRE-TREATMENT



Kenopure™

The best pre-treatment for every milking

- cleaning & sanitising
- skin conditioning
- versatile use
- the perfect match for The Pure Foamer



Pure Foamer

Milk easier - faster - cleaner

- optimum consistency of pre-milking foam
- no compressor required
- no more "cup squeezing"
- the perfect match with Kenopure
- easy and quick to install



Udder paper

Blue, recycled paper for udder cleaning

- removes grease, water and dirt
- to be used after applying Kenopure
- clean wet, milk dry
- 3 layers

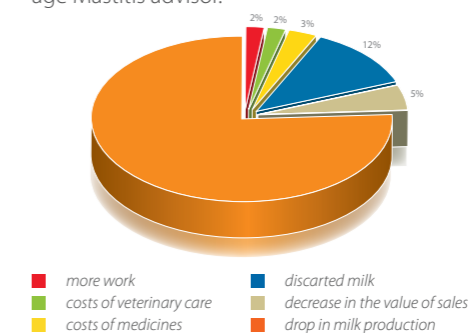
FIND OUT WHAT PREVENTIVE MASTITIS MANAGEMENT CAN MEAN FOR YOU

Despite a good knowledge of the pathology, the cost of both clinical and subclinical mastitis is often ignored or underestimated. Although direct consequences (udder damages) and direct costs (cost of treatment, veterinarian fees and time spent to treat animals) of mastitis are obvious, indirect consequences and costs are often neglected despite their bigger economic impact.

Economic loss

The economic loss from one single case of clinical mastitis in Western Europe ranges from 200 - 300 euros. The major cost component of the total economic loss caused by subclinical mastitis is reduced milk production for the current lactation (see graph).

To help you determine precisely and specifically the cost of mastitis on farm level, CID LINES has developed the mastitis cost calculator. Want to know how much you could save a year by battling mastitis? Contact your Manage Mastitis advisor.



Did you know?

Did you know that udder preparation stimulates the milk production?

After udder stimulation, the amount of oxytocin in the blood (hormone that induces the milkout start during milking) increases with time and its optimal concentration is reached after 60-90 seconds. It is advised to attach the milking unit ca. 1 minute after udder preparation.

Source: Precision milking, DVM Dan Humphries & DVM Tom Greenham

Biocidal teat dips

After milking, the risk of contamination is high because the sphincter is open and can stay open up to 2 hours after milking. The teat canal is the primary physical and chemical barrier to invasion of mastitis pathogens into the udder. The smooth muscles surrounding the teat duct should be contracted and the teat canal should be tightly closed between milking to avoid bacterial passage from the teat orifice into the interior of the gland. A teat end in good condition is an important resistance factor to bacterial colonization of the mammary gland.

Our products have key characteristics to accomplish their mission:

1. **Fast** (reduction 10^5 in 5 min contact time) and **persistent bactericidal activity** on micro-organisms such as *Staphylococcus aureus*, *Streptococcus uberis* and *Escherichia coli*.
2. **High teat conditioning properties** with a specific combination of emollients in order to improve or maintain optimum condition of the teats skin and encourage natural healing.



Kenomix™

Disinfecting teat dip based on chlorine dioxide

- ultimate disinfection
- very low consumption
- long lasting stability
- spectacular colour
- gentle on skin
- also available as Kenomix SD (spray & dip)



Kenodin™ Film

Second skin protection

- barrier teat dip based on iodine complex 3000 ppm
- low consumption
- moisturizes the skin
- long lasting protection
- easy to remove



Kenolac®

The summer protection for every cow

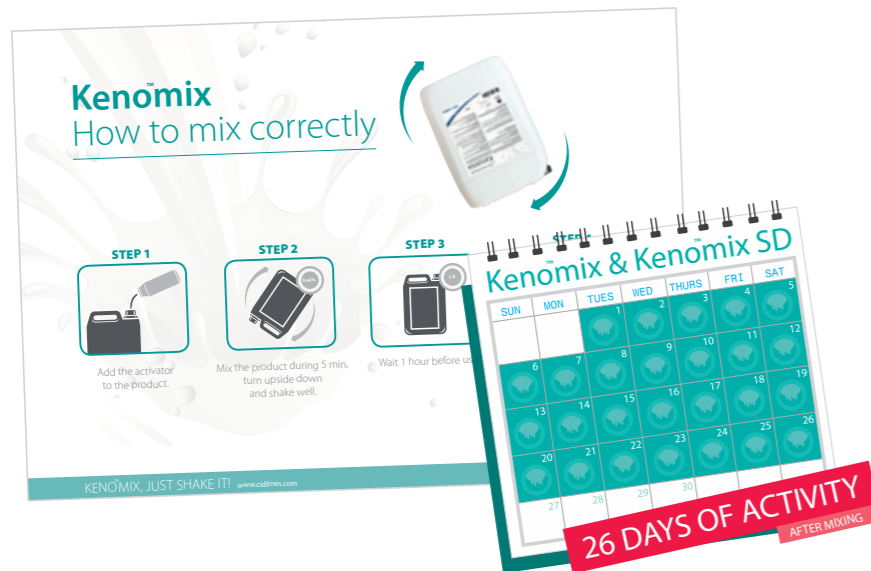
- based on lactic acid 3,6%
- possible to be applied on organic farms
- also available as Kenolac® SD (spray & dip)



Kenocool™

Is the ultimate protection against frost bite and cold winds

- complete protection
- soothing and skin caring effect
- specific formula



Check the teat skin condition!

Teat skin condition is an important parameter of a mastitis control strategy. Chapped and cracked teats are a perfect environment for bacteria to develop: warmth, humidity and nutrition are available. Germs like *Staphylococcus aureus* or *Streptococcus agalactiae* like to colonize these places. Consequently the quarter easily gets contaminated: directly (propagation of the germs) or indirectly (via milking machine contamination).

How good is the teat skin condition of your cows?



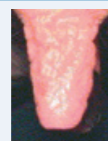
Teat skin is severely damaged and ulcerative with scabs or open lesions. Large and/or numerous warts, which interfere with teat end function.

score 5



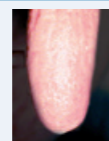
Teat skin is chapped and cracked. Redness, indicating inflammation is present. Numerous warts may be present.

score 4



Teat skin is chapped. Some small warts may be present.

score 3



Teat skin shows some evidence of scaling.

score 2



Teat skin is smooth, free from scales, cracks or chapping.

score 1



Pure Dipper

Milk easier - faster - cleaner

- optimum consistency of post-dip
- no compressor required
- no more "cup squeezing"
- easy and quick to install
- the perfect match with our post-dip products: Kenomix, Kenostart® and Kenolac®



TEAT DIP - POST-TREATMENT

Medicinal teat dips

The ideal teat dip provides excellent teat condition, facilitates sphincter closure and has a strong disinfectant activity. The coverage is homogeneous around the teat because of its perfect viscosity. Medicinal registration is the validation of such a concept. Veterinary medicines need to comply with several restrictions. The raw materials for example that are used for these products need to have a quality guarantee, complying with the European Pharmacopoeia. Several stability studies are an extra hurdle to reach the veterinary medicine status.

The National Mastitis Council states that the rate of new intra-mammary infection can be 50% lower when disinfecting teats with an effective product immediately after every milking compared to no disinfection. Teat disinfection does not affect existing mammary gland infections but may reduce colonization of the teat-ducts.



Kenostart®

Disinfecting teat dip based on iodine

- active iodine complex 3000 ppm
- non dripping properties
- tested on major mastitis causing bacteria
- also available as Kenostart® Spray and Dip



Marketing Authorisation N° UK: Vm 22136/4000

Kenostart®, 3 mg/g iodine. Teat dip solution for cattle (dairy). Indications for use, specifying the target species: Teat disinfection as a part of a prevention strategy for mastitis in cattle. Contraindications: In case of known hypersensitivity to iodine or to other ingredients of the product, the product must not be used. Adverse reactions: none known. This veterinary medicinal product is for topical application, significant absorption does not occur. Withdrawal period: Meat and Offal: zero days Milk: zero days. Marketing authorization holder and manufacturer: CID LINES N.V., Waterpoortstraat 2, 8900 Ieper, Belgium. Tel +32(0)57 21 78 77, Fax +32(0)57 21 78 79, mail: info@cidlines.com. Date instruction leaflet: 05/03/06.



Kenocidin®

Disinfecting teat dip based on chlorhexidine

- Barrier teat dip based on chlorhexidine
- For maintenance of good teat skin and teat end condition
- Tested on major mastitis causing bacteria
- also available as Kenocidin® Spray and Dip



Marketing Authorisation N° UK: Vm 22136/4002

Kenocidin®, Chlorhexidine digluconate 5.0 mg/g. Teat dip solution for cattle (dairy). Indications for use, specifying the target species: Teat disinfection as a part of a prevention strategy for mastitis in lactating dairy cows. For the maintenance of good teat skin and teat end condition. Contraindications: Do not use in case of known hypersensitivity to chlorhexidine or any of the excipients. Adverse reactions: none known. This veterinary medicinal product is for topical application, significant absorption does not occur. Withdrawal period: Meat and Offal: zero days Milk: zero hours. Marketing authorization holder and manufacturer: CID LINES N.V., Waterpoortstraat 2, 8900 Ieper, Belgium. Tel +32(0)57 21 78 77, Fax +32(0)57 21 78 79, mail: info@cidlines.com. Date instruction leaflet: 12/04/11.

Mastitis is an inflammation of the mammary gland, associated with a bacterial infection. It is caused by pathogenic microorganisms that enter the udder through the teat canal. Mammary tissue is then damaged, which causes increased vascular permeability. As a result of this, milk composition changes. There are two types of mastitis:

Clinical mastitis

Clinical mastitis is an inflammatory response to infection causing visibly abnormal milk (eg. color, fibrin clots). As the extent of the inflammation increases, changes in the udder (swelling, heat, pain, redness) may also appear.

Subclinical mastitis

The type of mastitis without any visible signs of infection. Subclinical mastitis is the most prevalent form of mastitis. Detection

of subclinical mastitis is best done by examination of milk for somatic cell counts using either the California Mastitis Test or automated methods. Somatic cell counts are positively correlated with the presence of infection. Cows with a somatic cell count of $\geq 280,000$ cells/ml have more than 80% chance of being infected. Likewise, the higher the somatic cell count in a herd bulk tank, the higher the prevalence of infection the herd.



UDDER CARE



Mint cream

Udder cooling mint cream

- based on 33% of Japanese mint oil
- gentle cream to apply
- designed for easy massage and absorption
- activates blood circulation



Mint spray

Udder cooling mint spray

- easy to apply by spraying
- no massage needed
- activates blood circulation



DIAGNOSTIC

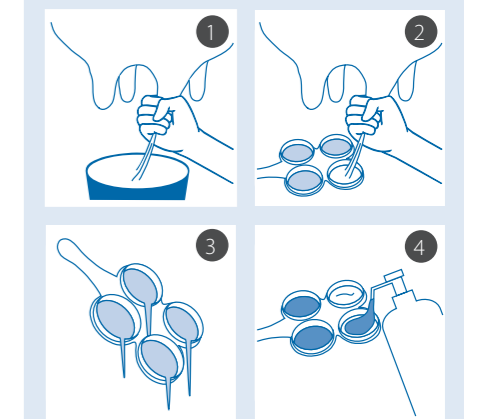


Kenotest™

Somatic cell count detection test

- perfect indicator for rapid detection of subclinical mastitis
- gives a semi-quantitative indication of the level of somatic cells present in the milk
- to be used with special test plate

Directions of use



To remember!

Optimizing milk production and milk quality is a priority for the dairy sector. Optimizing milk production means optimizing farmers' profit. And the strongest leverage measure to achieve maximum milk production is to prevent mastitis. Think hygiene, think high gain!

MILKING PARLOUR & BARN HYGIENE



Milking parlour & barn hygiene

The milking parlour is a high density place two or three times a day. Surfaces should be cleaned regularly to avoid multiplication of pathogens in this frequented area. As the milking machine is cleaned every day, it should be the same for the milking parlour itself. After each milking, rinse the milking parlour with water. Once a week, clean the area with a detergent, then disinfect. Virocid is advised because of its broad spectrum activity, its flexible directions for use: spray or foam or fogging and its non corrosivity thanks to its neutral pH. An automatic milking parlour is often even dirtier. The parlour should be cleaned minimum every other day.

The barn should be maintained as dry and clean as possible. Dirty, wet and crowded barns are a perfect medium for growth of environmental bacteria that can cause mastitis. A clean, dry and spacious environment is comfortable for the cows, it allows maximum resting time, which is synonymous of maximum milking production.



CLEANING



Kenosan™

The new standard in cleaning

- unique formula based on new technologies
- sticky and long-lasting foam
- extreme dirt penetrating capacity
- very economical use
- non corrosive



Biogel

Animal house cleaner with gel forming properties

- adhesion power
- longer contact time
- labour and water saving
- safe in use



Tornax S

Let your surface shine again!

- strong acid foam cleaner
- removes scale, proteins, iron deposits
- good foam generation
- based on phosphoric acid
- stained surfaces shine again

DISINFECTION



Virocid®

The most concentrated disinfectant!

- most effective disinfectant
- worldwide proven efficacy (EN and AOAC)
- recommended for emerging disease control
- user friendly

Virocid® is an **extremely concentrated disinfectant** with a synergistic composition of 4 active ingredients. It has proven records in preventing and fighting main diseases for many years: foot and mouth disease, influenza, bovine enterovirus, *Mycoplasma*, vesicular stomatitis virus, bovine virus diarrhea, *Brucella abortus* etc. Virocid® is the ideal partner to control foodborne zoonoses like *Campylobacter*, *E. Coli* and *Salmonella*. It is **amazingly effective** at very low dilutions (0,25 – 0,5%) against ALL microorganisms: bacteria, viruses, fungi and spores.

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.

The values for Virocid® are as followed:

- Virocid® sprayed at 0,5% (1:200) → 0,0019 ppm
- Virocid® foamed at 0,5% (1:200) → 0,0016 ppm

More information available on www.virocid.com



Cid 20

Your real hope in hygiene warzones

- most trusted disinfectant
- very economical
- long-lasting activity
- results in healthy & profitable business

Cid 20 is **one of the most used disinfectants based on several active ingredients**. Used worldwide for Emerging Disease Control such as Foot and Mouth Disease. **Efficient at low dilutions against bacteria, viruses and fungi without causing any resistance.**

A sound and preventative hygiene program is vital to achieve the important first step towards a productive disease free environment. Using Cid 20 as your trusted partner against bacteria, viruses and fungi spores you can be sure that the results will lead to a healthy and profitable business.

BEDDING



Kenolit™

RTU drying powder for housing and animals

- bedding powder with high drying capacity
- no chemical reaction
- safe for skin of animals and (metal) materials
- less attractive environment for bacteria and flies



CALF HUT, CALF PEN & CALVING BOX HYGIENE



Calf hut, calf pen & calving box hygiene

Calves need the best possible start in life, and cows need the best possible care at calving to ensure a good profitable lactation.

Against which pathogens am I disinfecting?

Calf pneumonia and calf scours cost the farming industry worldwide vast sums. The losses result not only from deaths, but from reduced feed conversion, poor growth and the cost of treatment. Focusing on the neonatal calf diarrhea (NCD), the most critical period is in the first few days following birth of the calf.

Biggest losses occur when calves are kept in close confinement, where the opportunity for transmission of the causative agents of NCD is enhanced by their build-up in the environment.

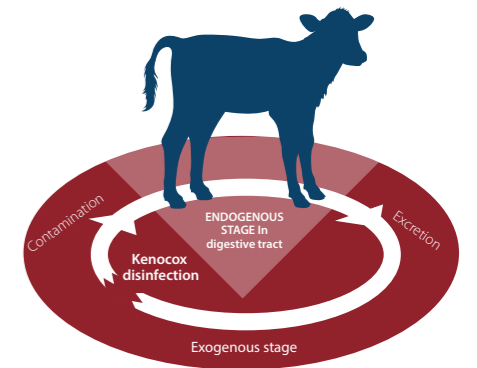


Kenocox™

Missing link in coccidiosis and cryptosporidiosis control

- very effective on the most resistant form of oocysts: sporulated oocysts
- unique formula
- without phenol, patented

Kenocox is a broad spectrum disinfectant effective against endoparasites (e.g. *Eimeria* spp, *Cryptosporidium parvum*), bacteria (e.g. *Pseudomonas aeruginosa*, *Staphylococcus aureus* and *Proteus vulgaris*) and viruses. Kenocox helps to reduce infection pressure in animal houses. It can be applied on all kinds of surface.

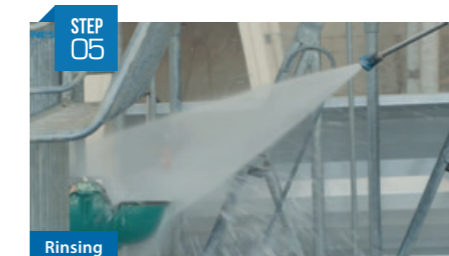


Target	Dilution rate, contact time
<i>Eimeria</i> spp	4% (1:25), 2h
<i>Cryptosporidium parvum</i>	2% (1:50), 2h
<i>Pseudomonas aeruginosa</i>	1% (1:100), 30 min
<i>Staphylococcus aureus</i>	1% (1:100), 30 min
<i>Proteus vulgaris</i>	1% (1:100), 30 min
Bovine Enterovirus	1% (1:100), 30 min

It is advised to supply at sanitary stop:

- Calve huts: after each calf
- Calve pens: at sanitary stop
- Calving box: after each calving

How to use Kenocox™



Use biocides with precaution. Before any use, read the label and the information concerning the product.



Hoof hygiene

Lameness is the third most important problem on many modern dairy farms after mastitis and reproductive failure. The considerable economic losses are attributable to the cost of treatment, decreased milk production, decreased reproductive performance, and increased culling. The incidence of lameness has steadily increased over the past 20 years, and on some farms over half of the animals become lame at least once each year.

Possible causes are:

- Confinement of cows to harder, wet and abrasive floors
- Housing conditions which are not ideal for resting time
- Prolonged exposure of feet to wet manure
- Nutritional mismanagement which encourage rumen acidosis
- Slippery floors
- Failure to recognize and institute prompt treatment of lameness
- Trimming techniques & schedules
- Genetics
- High infection pressure



Pediline Pro

The ultimate product for hoof baths

- strengthens the hooves
- free of heavy metals and formaldehyde
- broad spectrum disinfectant
- excellent penetrating power

Pediline Pro is a unique formula for the treatment of hooves. Thanks to its synergistic composition Pediline Pro retains its action in the presence of organic material (manure) and this even during cold temperatures. Pediline Pro has a high and proven stability.

Pediline Pro doesn't contain formaldehyde and is therefore not harmful for people and animals; there is no chance of skin burns (teats). Pediline Pro doesn't contain neither heavy metals and is therefore not pollutant for the environment! Pediline Pro is not toxic for people, animals and environment!



Kenofix

Protective and disinfecting skin spray

- based on chlorocresol and essential tea tree oils
- powerful and durable disinfection
- easy to use, fast and precise
- "Second Skin" technology
- film is permeable for oxygen



To remember

Use an alkaline cleaner for pipes and tanks and alternate with an acid product.

An alkaline product removes fats and proteins (organic material). It's formulated to clean and disinfect pipes and tanks.

An acid cleaner removes calcium and iron deposits built up by the minerals in water and milk. Several acids are available on the market: sulfuric, phosphoric, nitric and peracetic acids. Sulfuric acid is very gentle for the rubber but bad for stainless steel whereas peracetic and nitric acid oxidize rubber and break the joints but are very effective milkstone removers.



Rotating with an acid product will vary the pH and therefore stress bacteria and slow their development. The frequency of rotation depends on the hardness of the water:

- Soft water (<20°dH): use an acid product twice a week
- Hard water (>20°dH): rotate every day with an acid product

Use biocides with precaution. Before any use, read the label and the information concerning the product.



Milking machine

Cleaning routine for the milking machine:

1. Disconnect from the tank and remove the milk filter
2. Rinse clusters and set up for cleaning routine
3. Pre-rinse immediately after milking (before cooling down) with lukewarm water
4. Washing phase (65-80°C, 5-10 min)
5. Flushing (with cold water, until all chemical residues are removed)



DM Cid Ultra

Alkaline CIP cleaner and disinfectant

- removes fat and proteins at low dilution
- formulated to clean and disinfect pipes, all tanks and other CIP applications
- food safety
- free of QAC and chlorine



DM Cid

Cleaning and disinfection of all milking systems

- alkaline and chlorinated product
- formulated to clean and disinfect pipes, all tanks and other CIP applications
- alternate with Pho Cid



Pho Cid

Acid cleaner for descaling

- removal of calcium and iron deposits
- formulated to clean pipes, all tanks and other CIP applications
- alternate with DM Cid



Pho Cid D Pro

Acid cleaner for descaling

- removal of calcium and iron deposits
- formulated to clean pipes, all tanks and other CIP applications
- alternate with DM Cid
- phosphoric acid and nitrate free

Cluster hygiene

A cow that is infected means decreased production, but also a risk of cross-contamination during the milking process. The cluster should be disinfected after a 'high risk' cow is milked.



Kenocid 2100 5%

Acid disinfectant for cluster disinfection

- Based on peracetic acid (5%) and hydrogen peroxide
- Strong oxidizer



Milking robot hygiene



DM Clean Super

Strong alkaline cleaner

- ideal for milking robots and CIP installations
- extra degreasing properties
- non-foaming
- safe at high temperatures (chlorine free)



Pho Cid R

Strong acid cleaner

- ideal for milking robots and CIP installations
- descaling properties
- safe at high temperatures
- product based on phosphoric acid and citric acid - no sulfuric acid



Kenocid 2100 Robot

Acid disinfectant for milking robots and CIP installations

- Based on peracetic acid (5%) and hydrogen peroxide
- Strong oxidizer
- Cleaning properties



Drinking water hygiene

This ultimate drinking water sanitizer contains the most innovative technology to ensure a long lasting active chlorine dioxide within the formulation. Safe for animals and non-corrosive for drinking water systems.

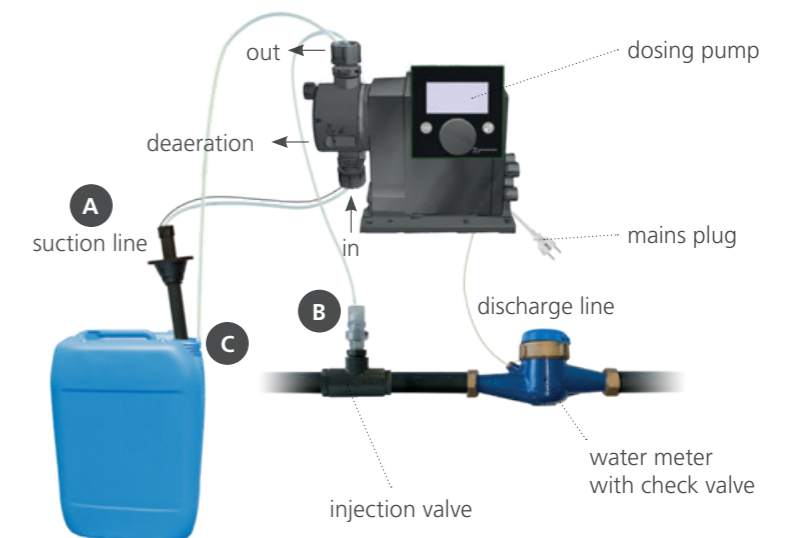
Kenox is a two component solution where Kenox B works as an activator for Kenox A. Once A and B are mixed and added to a specific volume of water, Kenox (A+B) produces a chlorine dioxide solution.



Kenox

Keep the water for your animals healthy and clean

- two component solution
- produces a chlorine dioxide solution
- strong oxidating capacity



Use biocides with precaution. Before any use, read the label and the information concerning the product.

PREVENTION IS THE BEST TREATMENT!



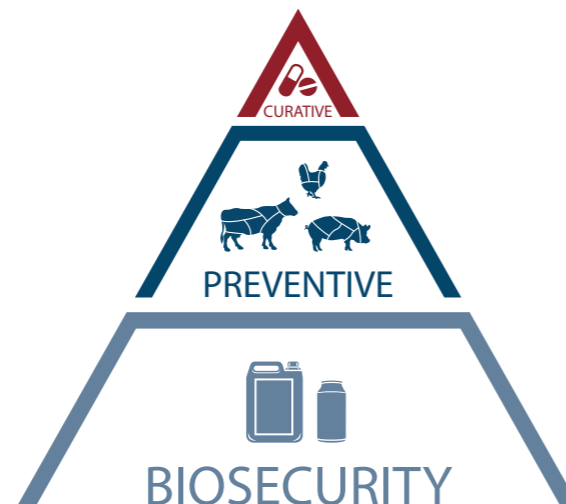
Antimicrobial resistance (AMR) is omnipresent both in human and veterinary medicine. Whether we use too much antibiotics, we don't apply them in an adequate way (under- or overdose) or we use the correct dose of antibiotics to treat an infection, we

encourage in every way the developing of this antimicrobial resistance.

Our body and the body of our animals are full of bacteria (in the nose, in the intestine, on the skin, ...). Not all bacteria are dangerous or pathogenic, we need a lot of them to survive. Although by treating one specific pathogenic bacteria at one specific place in the body of an animal, you will always attack at the same time all the other necessary bacteria of this animal.

Conquering antimicrobial resistance is one of the main objectives worldwide. It is very clear that we have to change from a curative management to a very forceful preventive management (without using preventive antibiotics). Several projects across the EU during 2011-2015 have shown that we really can reduce AMR in a proper way by reducing the overall AM use. But if we want to do this, we are in need of a valuable biosecurity program (internal and external) and an adequate herd-management.

To successfully control a disease and thus reduce the use of antibiotics, we need to **minimize the exposure** of pathogens and we have to **maximize immunity** for the animals.



Cleaning and disinfecting lies at the base of keeping out pathogens and is seen as one of the most important things for your herd management. Through well identified immunity boosters, we give the animals the support and aid to endure and fight the attack that might still occur in a well-balanced environment without using antimicrobials.

CID LINES is your partner to carry out biosecurity and a hygiene plan on your farm by offering plenty of working tools and expertise.

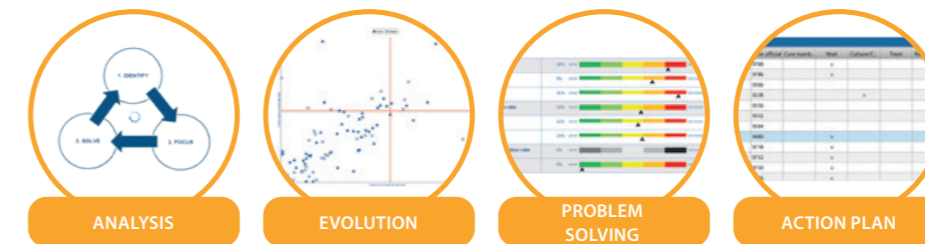
MANAGEMENT TOOLS

Keno-M, the next step in Mastitis Management

Keno M is a unique concept launched together by CID LINES and M-Team (University of Ghent), optimizing udder health and milk quality on dairy farms on the basis of training, supervision and communication in a "teach-the-teacher" model. Knowledge, analysis and insight, quality, simplicity, performance and motivation come first!

For further monitoring and treatment of udder health on a specific dairy farm the veterinary advisor will be able to use a simple and user-friendly software application developed using the expertise of the M-team UGent. The software application will give the vet advisor

immediately insight into the strengths and weaknesses of the udder health management on a dairy farm, give possible solutions and can automatically generate a report for its customer-dairy farmer with key findings and recommendations.



Mastitis Cost Calculator

Worldwide 3 main diseases threaten dairy farms: fertility is an ongoing issue, lameness becomes of more and more concern, and mastitis is still relevant. Despite a good knowledge of the pathology, the cost of both clinical and subclinical mastitis is often ignored or underestimated.

damages, for the next lactation. Optimizing milk production and milk quality is a priority for dairy sector. Optimizing milk production means optimizing farmers' profit. And the strongest leverage measure to achieve optimum milk production is to prevent mastitis. Think hygiene, think high gain!

If direct consequences (udder damages) and direct costs (cost of treatment, veterinarian fees and time spent to treat animals) of mastitis are obvious, indirect consequences and costs are often neglected despite much more economical impact. The main indirect cost is the decrease of milk production for the current lactation and also, because of irreversible

CID LINES has developed a tool, the mastitis cost calculator, to determine precisely and specifically the cost of mastitis on farm level. Enter the number of clinical cases per month, the level of somatic cell count, the production level, the price of the milk and you'll obtain the cost of mastitis for your herd.



8 myths on antibiotic resistance disproved



A collaboration between CID LINES and professor Jeroen Dewulf, University of Ghent

Antibiotic resistance has been all over the news in recent years. Not only is the problem expanding at an alarming rate, it is also a particularly complex issue. Human, animal and environmental factors as well as the interaction between these three players all have an impact on antibiotic resistance. This complexity has given rise to numerous misunderstandings.

In this book, a unique combination of in-depth theory and practical tips and tricks, professor Jeroen Dewulf provides a step-by-step explanation of the epidemiology of antibiotic use and resistance in animals, and the possible impact on humans. At the same time, he does away with a whole series of myths and clearly demonstrates there is no need for pessimism.

Use biocides with precaution. Before any use, read the label and the information concerning the product.



CID LINES[®]

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