CID LINES®
An Ecolab Company

AVI PRIME

Advanced hygiene programs for peak poultry production

WHERE HEALTH BEGINS

Poultry production was a pioneer in developing large-scale production and technified solutions to improve poultry management. The future of poultry production for broiler chickens is focused on...

- Genetic improvement
- Biosecurity
- Implementation of advanced technologies
- Optimization of hygiene programs

...to ensure the health and welfare of the birds, profitability, and product quality.

AVI PRIME

Challenges for the poultry industry

1 Ensuring food safety: *Salmonella*-free poultry meat

To provide chicken that is *Salmonella*-free and free of any other pathogen affecting human health.

Salmonellosis is the second most reported foodborne disease globally, with over

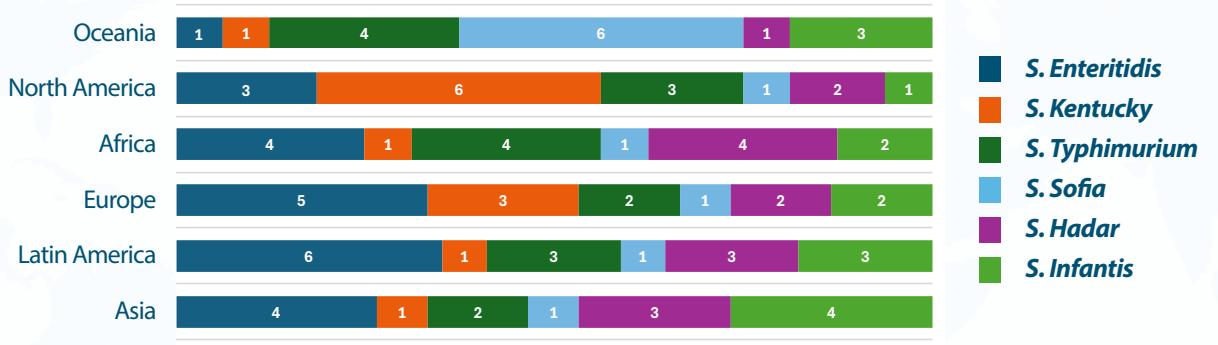
93.8 million cases

and more than

155,000 DEATHS ANNUALLY

It is the leading cause of hospitalization and the second leading cause of death from foodborne origins (Chlebicz and Slizewska, 2018).

The top 6 *Salmonella* serovars for more than 50% of all infections each year and its global distribution (Ferrari et. al, 2019)



Heat map of *Salmonella* serovar prevalence

6 = 4.75 | 5 = 3.75 | 4 = 2.75
3 = 1.75 | 2 = 0.75 | 1 = 0.25

***S. Infantis* is one of the newest and most prevalence serovar, present worldwide but not considered as a part of control programs.**

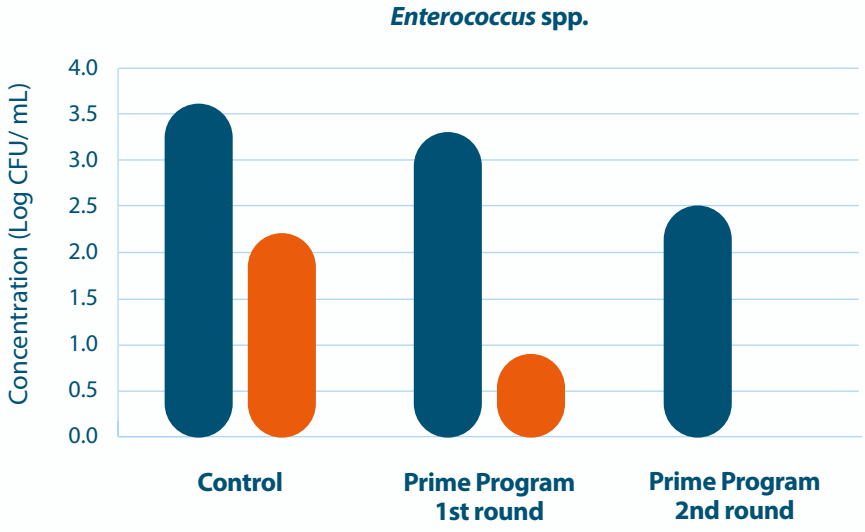
2 Insufficient hygiene results: An open door to pathogens

***Enterococcus* spp. create biofilm and contaminate drinking water systems.** [1]

***E. cecorum*-associated osteomyelitis and spondylitis in broilers and broiler breeders are one of poultry production's top financial issues.** [2]

***Enterococcus* spp. co-infection with *E. coli* leads to acute and chronic diseases, which lead to an increase in neonatal mortality.** [3]

The total removal of *Enterococcus* spp. from surfaces highlights the efficacy of the cleaning and disinfection process.[4]



Control
Previous cleaning and disinfection program of each farm.
Barn hygiene: strong alkaline cleaner + disinfectant products based on glut-QAC or peroxide solutions.
Water hygiene: hydrogen peroxide-based products.

Prime Program
Cleaning and disinfection program + drinking water line cleaning and disinfection at sanitary stop from CID LINES, An Ecolab Company.

After cleaning

After disinfection

Applying the proper hygiene program and optimizing its results ensures the effective removal of organic load, microorganisms such as *Salmonella* spp., and opportunistic pathogens like *Enterococcus* spp.

[1] Maes et al., 2019, Toledo-Arana et al., 2001; Kristich et al., 2004; Chajecka-Wierzchowska et al., 2016.
[2] Landman, 1999; Jung and Rautenschlein, 2014). [3] Jassim et al., 1996; Razmyar and Zamani, 2016. [4] Grund et al., 2021.

Be part of

AVI PRIME

to peak your poultry production!

Avi Prime is a complete hygiene program developed by CID LINES, An Ecolab Company.

This program addresses **barn and water hygiene** to ensure thorough **cleaning and disinfection on surfaces** and in drinking water systems and to offer **drinking water disinfection** supporting more sustainable and efficient poultry production.

AVI PRIME

Advanced hygiene programs
for peak poultry production

DURING THE PRODUCTION PHASE

Drinking water disinfection

DURING THE SANITARY STOP

Cleaning & disinfection of drinking water systems

Cleaning of the poultry barn

Disinfection of the poultry barn

AVI PRIME

DURING THE PRODUCTION PHASE

Drinking water disinfection

CID 2000 is a versatile cleaning and disinfecting (C&D) solution formulated with stabilized hydrogen peroxide and peracetic acid for:

- **C&D of drinking water systems**
- **Drinking water disinfection**

DURING THE SANITARY STOP

Cleaning & disinfection of drinking water systems

Cleaning of the poultry barn

Kenosan is a strong alkaline detergent specially developed for animal production needs with:

- **Strong and long-lasting foam capacity, extending contact time**
- **Enhanced adherence and penetration, resulting in superior cleaning results**

Disinfection of the poultry barn

Virocid™ is a highly concentrated broad-spectrum disinfectant comprised of quaternary ammonium compounds and glutaraldehyde that offers:

- **Superior efficacy**
- **Application on any type of surface related to animal production and livestock transport**

*Use biocides safely. Always read the label and product information before use. This product is not necessarily available or registered in every country. Check the authorized uses and registration number in your country.

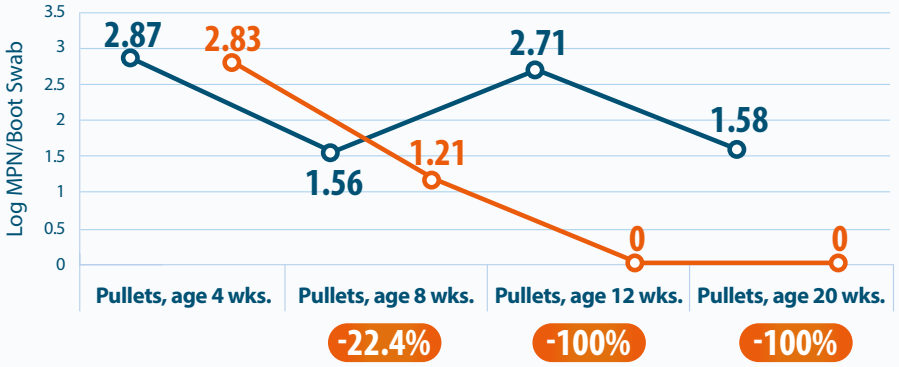
Avi Prime reduces *Salmonella* spp. prevalence in pullet and breeder houses

CID LINES, An Ecolab Company, partnered with researchers from the University of Georgia's Department of Poultry Science to conduct an extensive commercial trial in a poultry integration based in the United States, **to evaluate the effectiveness of cleaning and disinfection measures, together with drinking water disinfection,** in controlling *Salmonella* prevalence in pullet and broiler breeder stages.

Pullet phase (4-20 weeks)

NO *SALMONELLA* PRESENCE IN THE TREATMENT GROUP FROM WEEK 12 UNTIL END OF REARING PHASE

***Salmonella* concentration in shoe cover swabs from pullet house**

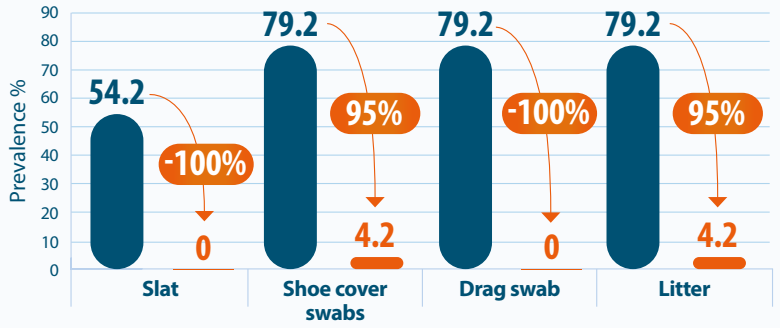


Breeder phase (30-42 weeks)

≥95%

REDUCTION OF *SALMONELLA* PREVALENCE IN THE TREATMENT GROUP DURING THE STUDY PERIOD

***Salmonella* prevalence % in breeder house (30 to 42 weeks)**



Control Treated

Avi Prime reduces *Salmonella* spp. prevalence in chicken carcasses at pre-chilling stage

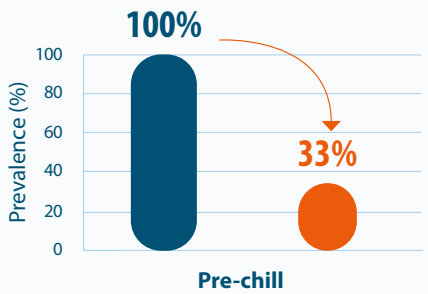
Processing Plant

-67%

SALMONELLA PREVALENCE REDUCTION AT THE PRE-CHILLING STAGE

(P < 0.05)

***Salmonella* prevalence in processing**



***Salmonella* prevalence at the pre-chilling stage was significantly lower (p<0.05) in the broiler carcasses of the treatment group coming from the treatment group breeders (33.3%) compared to the carcasses of the control group coming from the control group breeders (100%).**

Control Treated

Complete hygiene programs are crucial tools and must be part of the holistic approach necessary to reduce the risk of *Salmonella* infection in poultry production, helping to deliver *Salmonella*-free broiler meat.

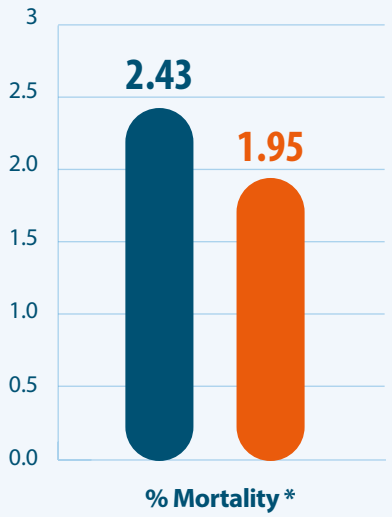
View study

Avi Prime: A success story in broiler production

Avi Prime reduces mortality promoting more sustainable production

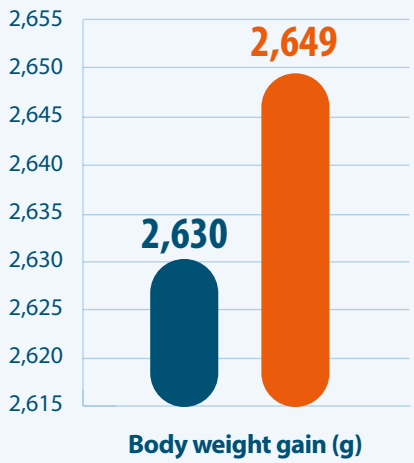
Up to -20%

MORTALITY REDUCTION



Up to +19 g

BODY WEIGHT GAIN BY CHICKEN PER CYCLE



Control

Previous cleaning and disinfection program of each farm.
Barn hygiene: strong alkaline cleaner + disinfectant products based on glut-QAC and peroxide solutions.
Water hygiene: hydrogen peroxide-based products.

Avi Prime Program

Cleaning and disinfection program + drinking water line cleaning and disinfection at sanitary stop from CID LINES, An Ecolab Company, using Kenosan, Virocid™ and CID 2000 products.

Linear trial conducted on 4 farms in Belgium using a control group (Control) and treatment group (Avi Prime), one after the other, including 1 control cycle + 2 Avi Prime cycles at each farm.

*Mortality between Control vs. Avi Prime 1 shows a statistically significance reduction ($P<0.05$)

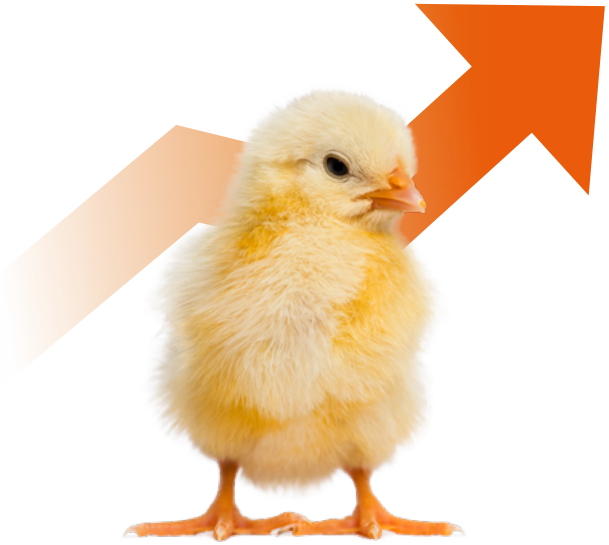
Control

Avi Prime average

Effective pathogen elimination ensures a less challenging environment at the start of a chicken's life, reducing mortality and improving flock performance.

View study

Avi Prime: Benefits for poultry producers



Disease prevention

By reducing the presence of infection-causing pathogens.

Mortality reduction

Reducing exposure to pathogens can help lower mortality rates.

Improved performance

A clean environment helps to reduce stress and risk of infection in broilers.

Food safety

Comprehensive hygiene measures help to control *Salmonella* spp. in pullet and breeder stages and deliver *Salmonella*-free poultry meat.

CID LINES
An Ecolab Company

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WHERE HEALTH BEGINS