

ECOBIO[®]L FIZZ

Application Guide





.....

Maintaining gut health is a critical factor for profitable and sustainable poultry production, particularly in the context of transitioning towards antibiotic-free practices. However, achieving a balanced intestinal microbiota is a complex task that requires a reliable and efficient solution to counteract stressors and prevent economic losses.

Ecobiol® Fizz, an effervescent tablet containing natural *Bacillus amyloliquefaciens* CECT 5940, offers a fast and easy solution to support gut health. The tablet dissolves rapidly in water and continuously delivers the probiotics via the water supply to promote animal well-being and sustainable production practices. Ecobiol® Fizz supports the establishment of intestinal microbiota, delivers a quick supply of beneficial bacteria during stressful periods, and can be flexibly used with various feed formulations. Additionally, the product is easy to apply, handle, and distribute uniformly (without stirring), and is compatible with other ingredients and diverse water conditions. It has no sugar-based carrier or additives that impact the formation of biofilm in the water tanks and drinking lines.

This guide provides instructions for applying Ecobiol® Fizz to water tanks or stock solutions, ensuring a consistent and efficient delivery of probiotics to support gut health in poultry farming.

STABILITY

SPECIFICATION

Bacillus amyloliquefaciens CECT 5940

Spore count min. $5E+11$ CFU / tablet



Stable for 2 years under the recommended storage conditions

.....



Homogenous distribution of spores maintained in water for at least 24 hours

.....



Normal environmental temperature changes will not affect product efficacy



STORAGE RECOMMENDATION



Store originally sealed box in a dry place at a temperature up to 77°F (25°C) and protected from direct sun light

.....



After opening the sachets, use the tablet as soon as possible

PACKAGING

Each box contains
25 tablets in
individual sachets



DOSAGE

WATER TANK



Add 1 tablet per 265 gallons
(1000 liters) of water for a
concentration of $1.9\text{E}+9$ CFU
Bacillus amyloliquefaciens
CECT 5940 per gallon ($5\text{E}+8$ CFU
Bacillus amyloliquefaciens
CECT 5940 per liter)

STOCK SOLUTION



Dissolve tablets in smaller volumes
using a dosing pump or adjusting
device and supply to the water
line. Adjust ratio between stock
solution and water needs to meet
the target concentration of $1.9\text{E}+9$
CFU/gallon ($5\text{E}+8$ CFU/L).

APPLICATION PROCEDURE

CONTINUOUS APPLICATION

Gives a stable and constant dose of Ecobiol® Fizz spores to maintain intestinal microbial balance over the whole production cycle.

INTERMITTENT APPLICATION

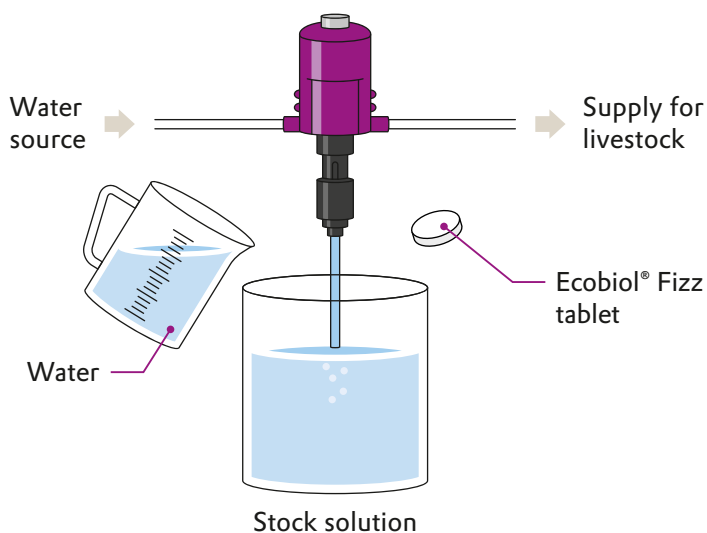
Enables flexible usage

- in newly hatched broilers
- post antibiotic treatment
- during wet dropping events
- after feed changes

Period of use: 3–5 days per treatment



APPLICATION VIA STOCK SOLUTION AND DOSING PUMP SYSTEM



POSSIBLE DILUTIONS

1 : 50

1 : 64

1 : 100

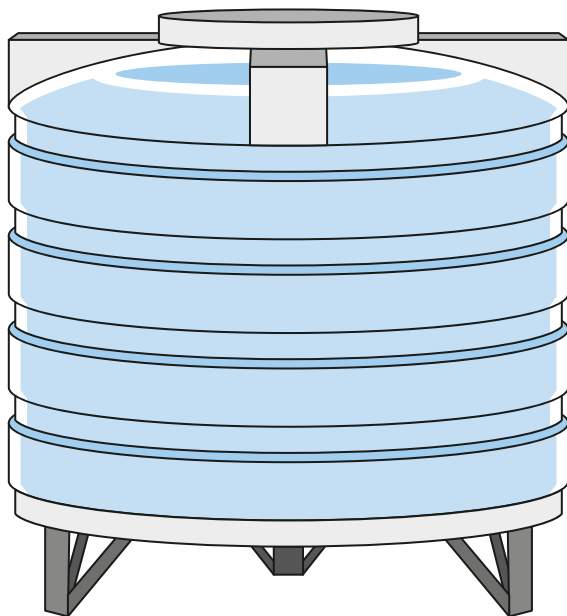
1 : 128

1 : 200

	Example 1 Dilution at 2%	Example 2 Dilution at 1.5%
Dosificator Setting	1 : 50	1 : 64
Target Concentration	1 tablet / 1000 litres of water	1 tablet / 1000 litres of water
Stock Tank Size	20 Liters	50 Liters
Product Amount Needed	1 tablet / 20 liters of water	3 tablets / 50 liters of water

APPLICATION VIA WATER TANK SYSTEM

1 tablet
Ecobiol® Fizz



1000 L water tank

ECOBOL® FIZZ ON TREATED WATER

WITH CHLORINATION

The disinfection activity of chlorine depends on the presence of FREE Chlorine (Cl). This depends on:



Only active at pH between 6–7.5

.....



Contact time > 20 minutes

.....



Temperature > 15 °C

.....



Hardness, conductivity, organic contamination, presence of bio-film

.....



FREE chlorine concentration > 0.5 ppm
at end of drinking line

WITH HYDROGEN PEROXIDE



Works better at pH < 7

.....



Very strong oxidator

.....



Product of 50 % stabilized H₂O₂ is economically the best

.....



Concentration at the end of drinking line must be 30 ppm H₂O₂

.....



Can be used together with acids

.....



At lower dosages it reduces bacteria and prevents development of biofilms

.....



At higher dosages it efficiently removes biofilm

CONTINUOUS TREATMENT OF WATER SUPPLY



During whole cycle

.....



While animals are present

.....



Goal: continuous treatment*

- Moderate concentration needed, the animals drink it
- By preference via dosing pump on all water in farm

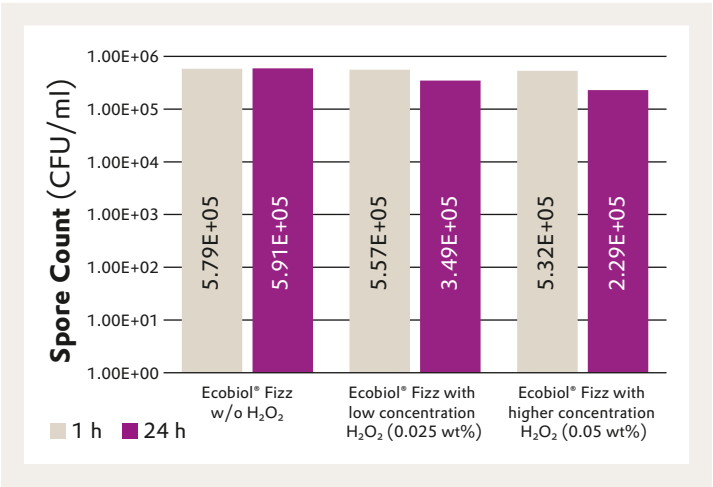
OPTIONS

Product	Quantity per Ton of Water
Hydrogen Peroxide 50 %	0.1 –0.2 L
Hydrogen Peroxide 20 % + Peracetic Acid 5 %	0.05 –0.2 L

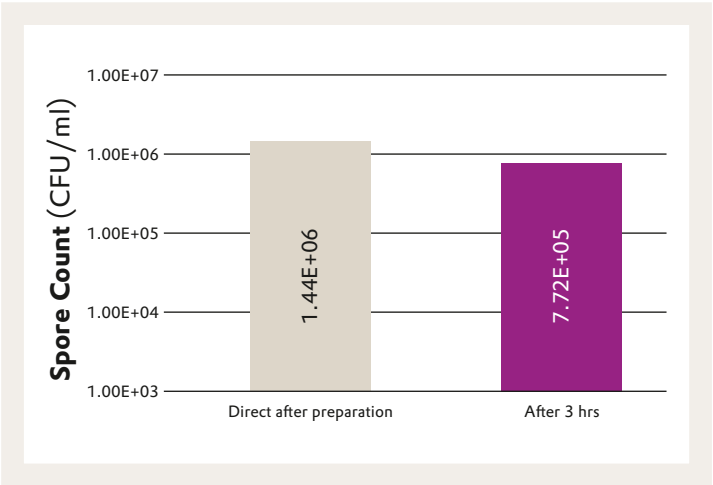
* Prevent growth of bacteria, yeast and molds; prevent formation bio-film; prevent formation of scale; reduction of Acid Binding Capacity (ABC). This can be important if the feed is not acidified enough.

**PRODUCT COMPATIBILITY
ON TREATED WATER**

HYDROGEN PEROXIDE 50%

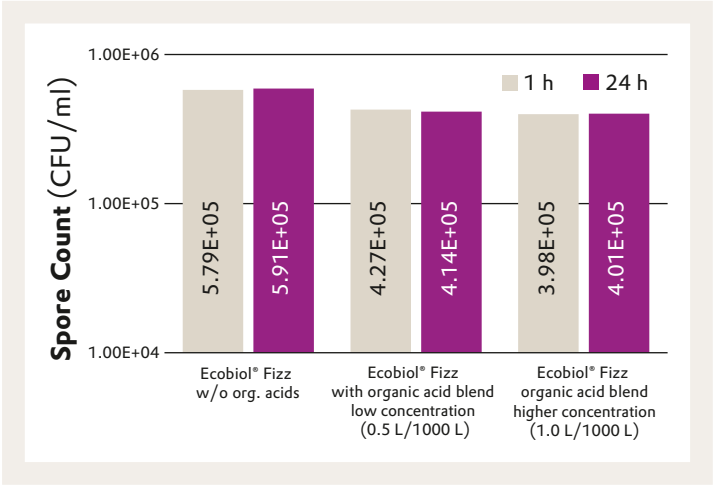


FREE CHLORINE (1 PPM)

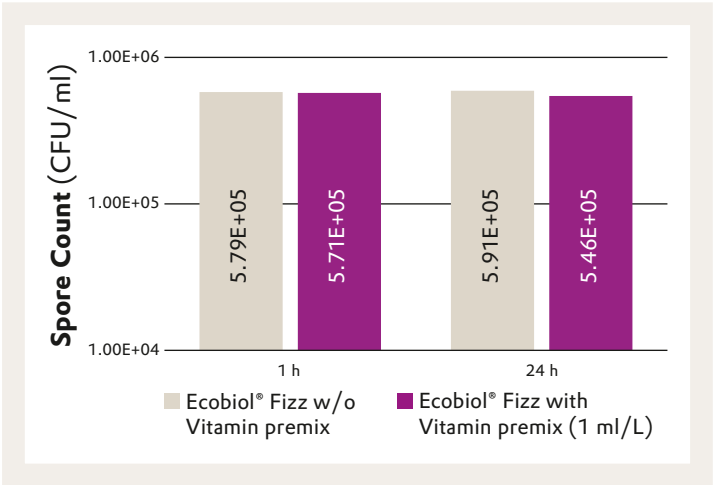


PRODUCT COMPATIBILITY
WITH OTHER FEED ADDITIVES

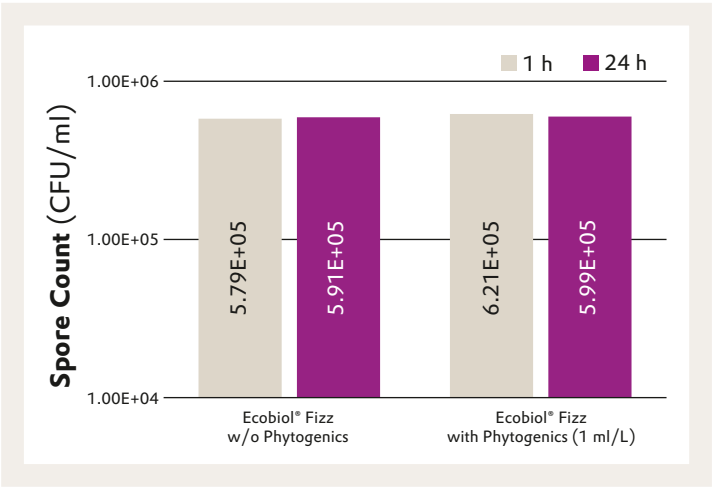
ORGANIC ACIDS



VITAMINS



PHYTOGENICS



REDUCED BIOFILM

Ecobiol® Fizz forms less biofilm than other commercial probiotics with a dextrose carrier on both steel and PVC pipes.

EXPERIMENTAL SETUP



Target concentration:
5x10⁵ CFU/ml

.....



Water temperature:
Room temperature (20 °C)

.....



Water quality:
Water (20 °dH, defined mineral content)

.....



Water supply:

- Continuous flow in circulation
- 8 hrs. without circulation
- Flow rate is adjusted every 7 days
- Daily renewal of fresh water

.....



Materials:

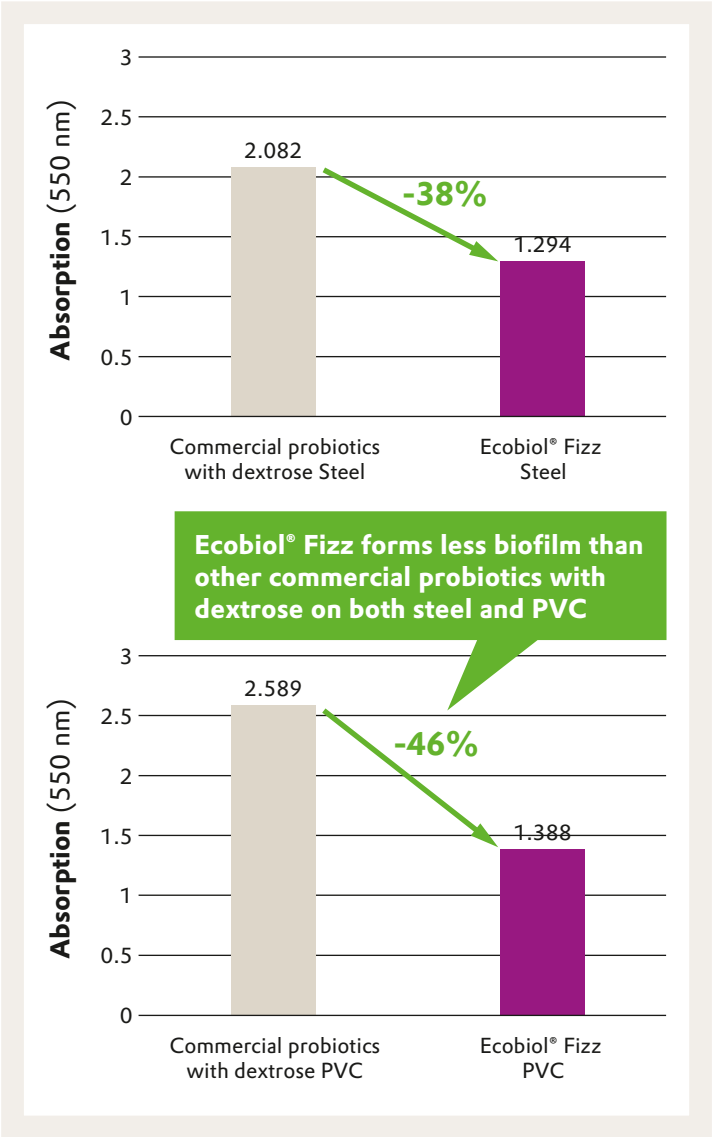
- PVC
- Small stainless steel

.....



Biofilm was stained with crystal violet

Results from the photometric measurements after 42 days –
Reduced biofilm formation using Ecobiol® Fizz



COMPATIBILITY WITH OTHER PRODUCTS

Ecobiol® Fizz is compatible to be used together with various products depending on the dose and type:



Vitamins or phytochemicals*

.....



Organic acid blends

.....



Disinfectants incl. hydrogen peroxide

Disclaimer: All in-vitro tests have been conducted in a lab with very clean water. Lab tests do not reflect farm conditions.

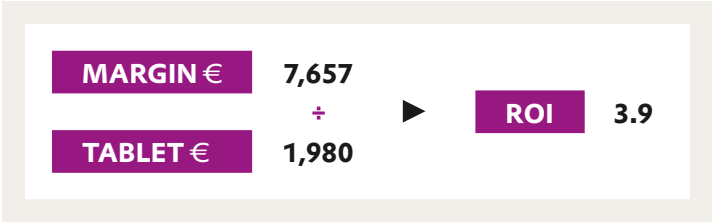
*Vitamins or phytochemicals can be added up to a concentration of 1 mL/L with no adverse effects on the product



TRIAL SUMMARY

- The trial was managed by the Applied Group from The Poultry Farming & Consultancy (Optifarm, UK)
- The Cleat Hill Farm (Syerscote Lane, Tamworth B79 9HB, UK) was chosen for the trial
- 20 houses in total (over 4 runs) were randomly assigned to 2 treatments
 - 10x Control
 - 10x Ecobiol® Fizz
- 36,500 animals / house / run
 - Total: 365,000 animals / treatment
- Ecobiol® application days: 1–3; 10–12; 21–23; 27–29

	Birds at slaughter house	Total weight kg	Total value €	Feed intake tons	Feed costs €
Con	344,383	755,680	1,133,520	1,100	384,815
Fizz	347,407	768,930	1,153,395	1,134	397,033
Fizz-Con	3,024	13,250	19,875	34.9	12,218



Assumptions: Price per kg of live weight: 1.5 € | Price of feed 350 €/ton
Abbreviations: C = Control | F = Ecobiol® Fizz supplementation

Evonik Operations GmbH
Animal Nutrition Business Line

animal-nutrition@evonik.com
www.evonik.com/animal-nutrition

This information and any recommendations, technical or otherwise, are presented in good faith and believed to be correct as of the date prepared. Recipients of this information and recommendations must make their own determination as to its suitability for their purposes. In no event shall Evonik assume liability for damages or losses of any kind or nature that result from the use of or reliance upon this information and recommendations. EVONIK EXPRESSLY DISCLAIMS ANY REPRESENTATIONS AND WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, AS TO THE ACCURACY, COMPLETENESS, NON-INFRINGEMENT, MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE (EVEN IF EVONIK IS AWARE OF SUCH PURPOSE) WITH RESPECT TO ANY INFORMATION AND RECOMMENDATIONS PROVIDED. Reference to any trade names used by other companies is neither a recommendation nor an endorsement of the corresponding product, and does not imply that similar products could not be used. Evonik reserves the right to make any changes to the information and/or recommendations at any time, without prior or subsequent notice.

01/2025