

SOLUTION HERE AND NOW!

Field trials in poultry farming

At one of the poultry farms for treatment of broilers of COBB 500 cross with violation of the functions of the gastrointestinal tract, broad-spectrum drugs were used: **TRICOLIN** and preparation No. 2 containing doxycycline and colistin. In this case, birds in one house obtained tricolin, in another house - preparation №2, both starting from 23rd day of life, according to product leaflet.

Bacteriological studies were done, resulting in pathogenic microflora isolation. Isolated bacteria, according to results of studies, proved to be sensitive to amoxicillin, doxycycline and fluorophenicol. Application results of test preparations are given in *Table 4*.

In spite of the fact that sensitivity was low to the active ingredients of **TRICOLIN** separatly, and the product No. 2 included doxycycline, the sensitivity to which was high, the best results were obtained in the poultry house treated with **TRICOLIN**.

Table 4. Comparative characteristics of production indicators.

Indicators	TRICOLIN	DOXY+COLISTIL	TRICOLIN effect
%			
Number of birds	14967	14905	
Mortality	298	411	+ 113
Liveability	98,01	97,31	+ 0,7%
Average daily gain	51,28	50,88	+ 0,8%
FCR	1,824	1,842	- 0,018
Efficiency Index	290,04	283,34	+ 2,4%

A positive effect was also observed at a poultry farm in the Sumy region. TRICOLIN was used according to the instructions on 12,000 laying hens aged 300 days with clinical signs of salpingo-peritonitis, pericarditis, and perihepatitis. As a result of using TRICOLIN, the spread of infection was stopped, and the bird's mortality stabilized. After the course of treatment, there were no relapses until the end of the 500-day observation period.

TRICOLIN
IS HIGHLY EFFECTIVE
AGAINST
Salmonella Spp.



Acidity

In production of oral antibiotics with enrofloxacin, an alkaline formula is often used. It may result in problems with sedimentation of a drug, if dissolved in hard water.

TRICOLIN – ACIDIC FORM pH
FOR IDEAL ACTION
IN HARD WATER

Toxicity

Synergistic effect of selected active ingredients made it possible to reduce their concentration without loss of efficiency and to minimize overall toxicity of the product.

Table 5. Study of toxicity of TRICOLIN.

Groups of 10 mice	Drug doses, mg/mouse	04.05.12		05.05.12		06.05.12	
		alive	dead	alive	dead	alive	dead
1	1000	10	-	10	-	10	-
2	2000	10	-	10	-	10	-
3	2500	10	-	10	-	10	-
4	5000	8	2	7	3	7	3
5	10000	6	4	6	4	5	5
6	15000	7	3	7	3	8	2
7	0	10	-	10	-	10	-

Low toxicity data indicate that TRICOLIN belongs to 4th toxicity class - low-toxic products. For white mice with oral administration route, LD50 is 10,000 mg / kg.

TRICOLIN IS SAFE and not toxic in doses, 8 times higher than therapeutic.

TRICOLIN IS A BROAD-SPECTRUM
COMPLEX ANTIBIOTIC WITH
SYSTEMIC ACTION

Produced by:

 BioTestLab®
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TRICOLIN



COMPLEX ORAL ANTIBIOTIC WITH SYSTEMIC ACTION

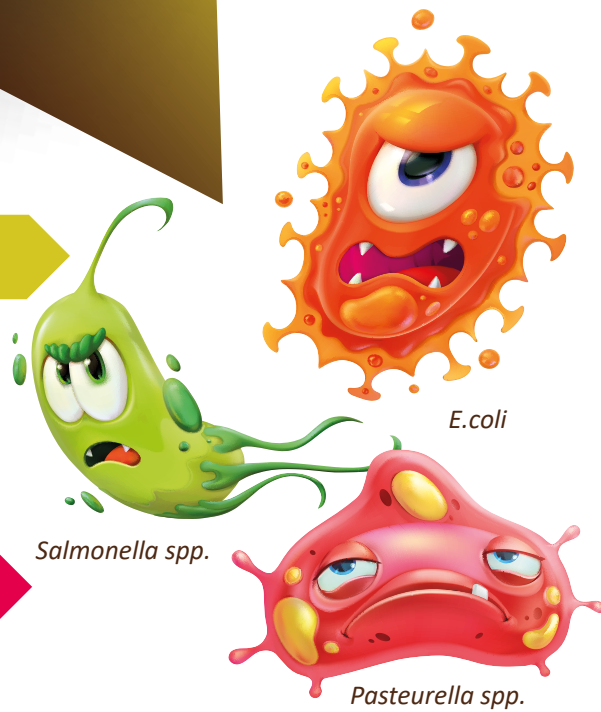
ACTS QUICKLY
HITS TARGETS!



01 COLISTIN SULFATE

02 TRIMETHOPRIM

03 ENROFLOXACIN



GENERALIZED INFECTION?

Today, the issue of resistance of pathogenic microorganisms to antibacterial drugs is urgent, as their resistance determines the choice of strategies for treatment and prevention. Resistance is one of factors that determine possibilities to increase economic efficiency of livestock sectors.

Bacterial infections often have an associated course, so usage of complex drugs with a wide spectrum of action remains appropriate. The use of complex drugs in accordance with principles of rational antibiotic therapy allows to:

- Prevent occurrence of resistant strains of microorganisms
- Reduce likelihood of side effects when using several synergistic substances.

Sensitivity

Table 1 shows results of sensitivity studies of bacterial infectious pathogens to most frequently used antibacterial substances.

Table 1. Sensitivity of bacterial pathogens to antibiotics, Ukraine, 2011.

Detected bacteria	E.Coli 71	Salmonella 21	Staphylococcus spp. 9	Streptococcus spp. 15	P.Haemolytica 1	Pasteurella spp. 1	Pseudomonas spp. 5	Proteus spp. 3
%								
Colistin	94	100	0	0	100	100	100	0
Enrofloxacin	59	100	44	41	100	100	100	33
Trimethoprim	54	95	44	7	100	100	0	0
Gentamicin	52	95	56	27	100	100	100	67
Doxycycline	61	95	56	53	100	100	80	0
Oxytetracycline	44	90	11	7	0	0	40	0
Flumequine	14	48	0	13	0	0	0	33
Florfenicol	76	95	44	53	100	100	0	100
Spectinomycin	15	33	0	0	100	100	20	0
Amoxicillin	39	95	89	89	100	100	0	0
Amoxicillin + clavulanic acid	54	95	44	7	100	100	0	0

According to research by Dreval DV, Center of Modern Diagnostics, Kiev, Ukraine. A total of more than 200 samples.

Based on modern scientific data about sensitivity of pathogens, BioTestLab® team developed a new complex drug TRICOLIN.

MECHANISM OF ACTION

COLISTIN SULPHATE

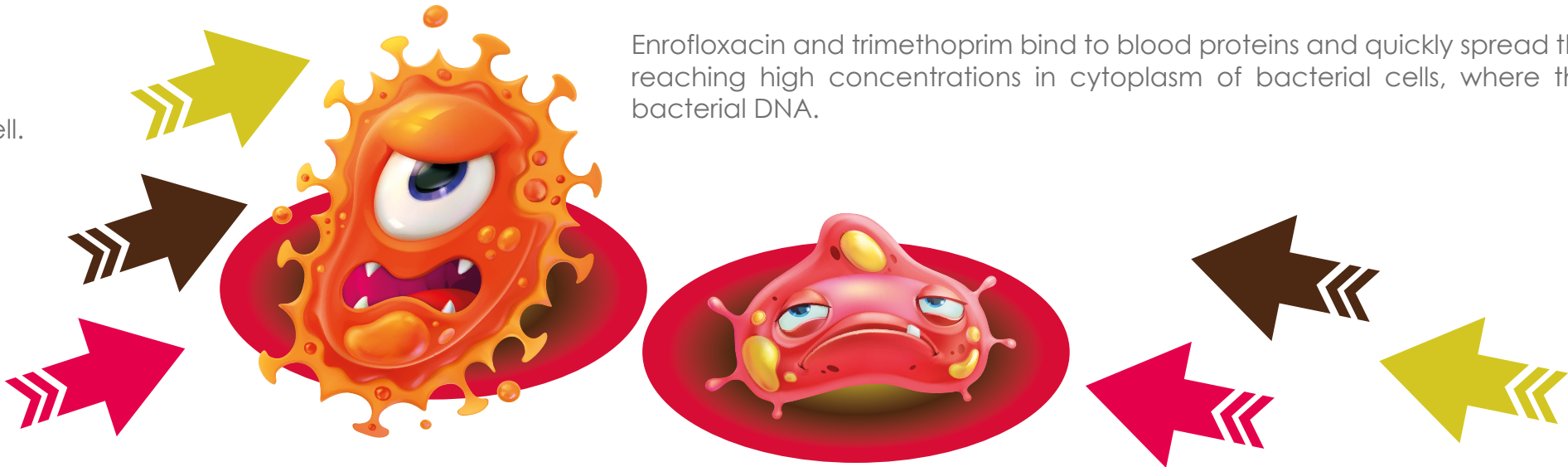
Breaks mechanisms of cytoplasmic membrane, leading to loss of vital cell components by bacterial cell.

ENROFLOXACIN

Inhibits activity of bacterial cell's DNA-gyrase enzyme.

TRIMETHOPRIM

Folic acid antagonist, inhibits activity of dihydrofolate reductase enzyme in synthesis of tetrahydrofolic acid.



ACUTE FORM? POLYINFECTION?

TRICOLIN

Oral solution

UNIVERSAL DRUG

- in case of mixed bacterial etiology
- in case of increased resistance
- in case when there's no time to wait for sensitivity results

Route of administration and doses

TRICOLIN is recommended for use in poultry and calves (up to 3 months) for diseases of the respiratory system and gastrointestinal tract

Table 2. Application protocol of tricolin.

Route of administration	Orally once a day
Dosage	calves (up to 3 months of age) – 0.5-0.8 ml of the drug per 10 kg of animal b.w.; poultry: 1.0 ml per 1 liter of drinking water
Duration of treatment	3-5 days: for salmonellosis, mixed infections, and chronic forms of poultry diseases 5-7 days
Withdrawal period: for meat	7 days (poultry); 14 days (calves)

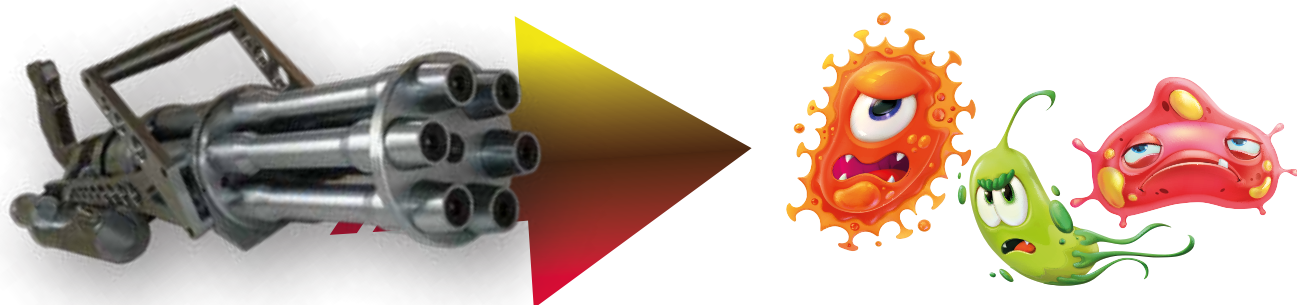


HIGH BIOAVAILABILITY

Enrofloxacin and trimethoprim bind to blood proteins and quickly spread through body tissues, reaching high concentrations in cytoplasm of bacterial cells, where they act directly on bacterial DNA.

SOLUTION HERE AND NOW!

In practice, cases of synergism are known, with increase in effecacy of combined preparations, even with a combination of active substances, to which (if used separately) sensitivity of microflora was low or even absent.



Synergies of components

Synergistic effect is clearly demonstrated in results of studies comparing sensitivity to Tricoline, bivalent and monovalent antibiotics in Table 3.

Table 3. Sensitivity determination of bacterial infectious pathogens in animals try.

Bacteria (cattle, poultry)	№ER*	TRICOLIN	Growth inhibition in mm		Trimethoprim
			Enro+Trimetho	Enrofloxacin	
Staph. aureus	1404	30	29	29	6
Staph. aureus	-	22	25	22	11
Staph. aureus	-	35	33	33	60
Staph. aureus	250	15	17	15	10
E. Coli	240 (13)	18	15	15	6
E. Coli	194	26	27	13	6
E. Coli	244 (1)	26	29	18	20
E. Coli	240 (13x)	19	15	17	6
Salmonella spp.	240 (18)	30	-	20	22
Salmonella spp.	196 (12)	33	30	32	23
Strep. spp.	158	25	23	-	-

*ER - expert report. According to research by Dreval DV, Center of Modern Diagnostics, Kiev, Ukraine. disco-diffusion method.

The results of the study presented in Table 3 show that the complex drug TRICOLIN demonstrated the highest or similar efficacy against Staphylococcus aureus and Streptococcus spp., although, as indicated in Tables 1 and 3, the individual components of TRICOLIN, when used separately, were less effective against coccal infections.

COLISTIN
ENROFLOXACIN
TRIMETHOPRIM



LESS TOXICITY
LESS DOSES
RESISTANCE PREVENTION