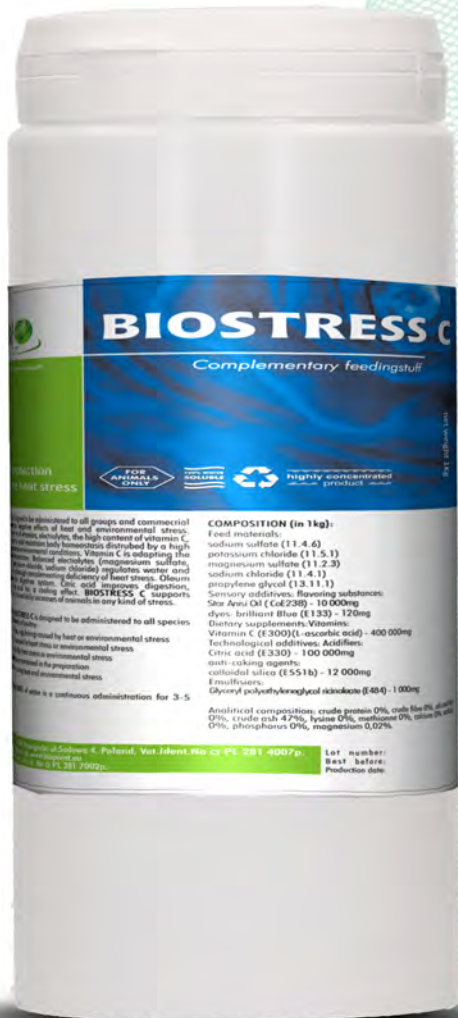




# BIOSTRESS C



## INDICATIONS:

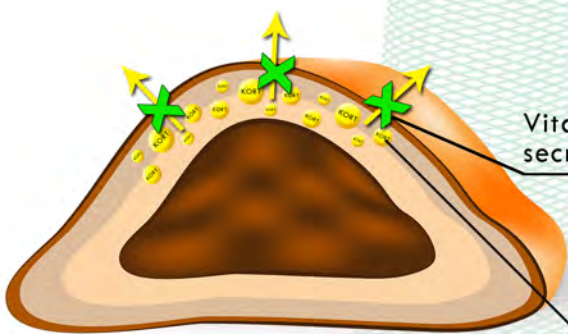
Biostress C is designed to be administered to all species and commercial breeds of poultry:

- decreased condition caused by heat or environmental stress,
- decreased egg laying caused by heat or environmental stress,
- growth inhibition caused by heat or environmental stress,
- poor appetite caused by heat stress or environmental stress,
- electrolytes deficiency contained in the preparation,
- supportive factor during heat and environmental stress.

## DOSSAGE:

250g/1000L of water in a continuous administration for 3 -5 days

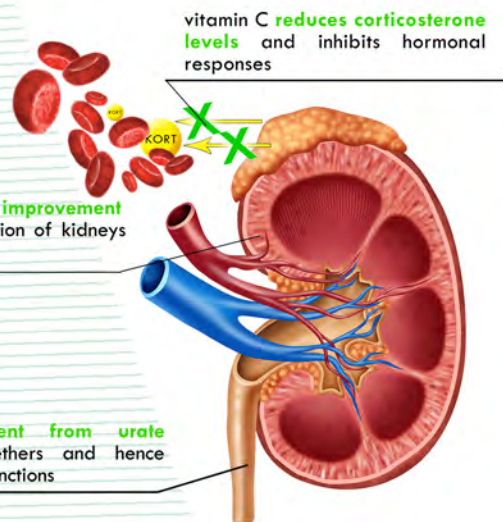
## HOW DOES IT WORK



ADRENAL GLAND CROSS-SECTION

Vitamin C inhibits corticosterone secretion

Corticosterone



vitamin C reduces corticosterone levels and inhibits hormonal responses

Water balance improvement due to stimulation of kidneys functions

Electrolytes prevent from urate deposits in ureters and hence facilitate kidneys functions



# FIELD TEST

## I. Aim of research

The aim of the experiment was to determine the effect of BIOSSTRESS C on the condition of broiler chickens during periods of high temperatures (outside air temperature above 28° C).

## II. Experimental birds

The experiment was conducted on 29,000 Ross 308 broiler chickens divided into 2 groups of 14,500 chicks. The birds were kept in a poultry house measuring 140 m x 12 m (the area of the poultry house: 1,680 m<sup>2</sup>), which is divided into two parts. Each part of the poultry house had a separate drinking line. The experiment was performed in two identical repetitions.

The experiment was performed in August 2015; outside temperatures above 28° C occurred from 10th to 25th day of chickens' life.

## III. Experimental design

The preparation was administered on the following days of fattening:	Control group	Test group
10,11,12,13,14	did not receive any preparation	BIOSSTRESS C 250 ml/1000L of drinking water, non-stop
20,21,22,23, 24	did not receive any preparation	BIOSSTRESS C 250 ml/1000L of drinking water, non-stop



## IV. Feed

TMR feeding following the recommendations of the broiler chicks supplier.

## V. Tested characteristics

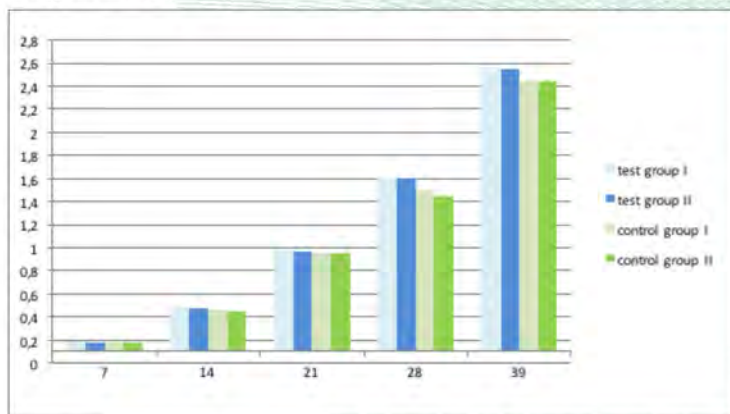
- number of deaths
- average body weight of birds at the end of each week (30 birds from each group were weighted)
- water intake
- feed intake
- heterophils to lymphocytes ratio (H:L)

## VI. Results

Table 1 The number of bird deaths in individual weeks of fattening (number of chicks).

FATTENING WEEK	TEST GROUP		CONTROL GROUP	
	I	II	I	II
1	70	55	65	70
2	58	54	80	90
3	41	45	62	70
4	54	50	69	65
5	45	45	61	59
6	40	46	42	41
Total	307	295	380	395
Average mortality rate in weeks 2, 3 and 4 in both groups (the period of the highest temperatures)	151		<67 chicks	218

Graph 1. Body weight of birds on individual days of fattening (kg).



Graph 2. Water intake between the 4th and the 30th day (average of the control groups and test groups) (L).

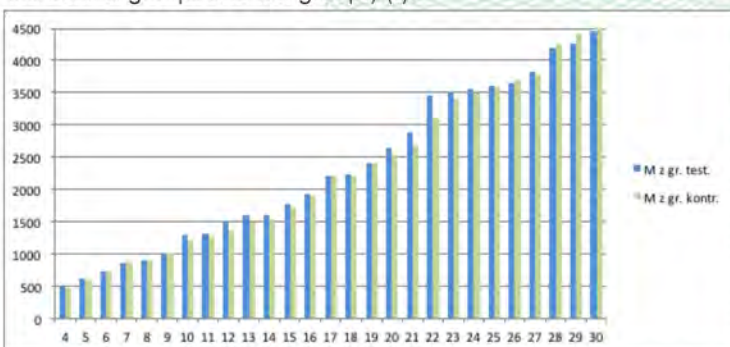


Table 2 The heterophils to lymphocytes ratio (H:L) on the 10th and the 25th day of birds' life n, n = 10. M-arithmetic average

DAY OF BIRDS' LIFE	TEST GROUP	CONTROL GROUP
10	0.41	0.39
25	0.53	0.62

## Summary and Conclusions

1. During the period of the highest temperatures a lower number of deaths was recorded in the test group (67 chicks) than in the control group.

2. The body weight of birds in the test group during hot weather and at the end of the phase was greater than in the control group, which may be due to the beneficial effect of BIOSSTRESS C: vitamin C and electrolytes which offset the negative effects of high temperatures (e.g. respiratory alkalosis) and facilitate the adaptation of the organism under the influence of heat stress.

3. In the period of heat, the water and feed intake was greater in the test group than in the control group, which may be the result of aniseed oil contained in the preparation, which stimulates the digestive system, as well as the result of citric acid, which improves feed and water intake of birds.

4. During the period of high temperatures, the H:L ratio, which is treated as an indicator of stress in birds, changed in both groups of birds. In the test group the ratio increased by 0.12 while in the control group by 0.23.