



Trial report about PGE Bioprotector
Conducted under the supervision of Dr. Hofstra

Use instruction:

Required quantity: 2 litres / 1000 chicken

Application:

PGE Bioprotector should be diluted 1 : 4 with water before application. After cleaning of the stable, but prior to sprinkling in the wood chips, 50 % of PGE Bioprotector is sprayed on the stable ground. The residual 50 % of PGE Bioprotector is sprayed on the surface of the wood chips.

Control:

During fattening period the pH value of the manure should not be higher than 7 - 7,5.

Description of the stable:

Stable size

Length:	110 m
Width:	15 m
Surface:	1650 m ²
Volume:	110.137 m ³
Number of chicken:	30.000
Number of chicken / m ² :	18
Quantity of wood chips:	18 m ³
Heating system:	central heating
Airing:	296.000 m ³ /h
Control engineering:	CO2 and temperature
Temperature:	32°C at the beginning, reducing during the trial to 21°C. Due to high outdoor temperatures, the inside temperature did not drop below 23°C.

Technical results of the trial:

	Reference stable 1 - 4	Test stable
Number of chicken at the beginning:	50.000	30.000
Number of chicken after the trial:	47.300	29.151
Feed consumption:	181.050 kg	113.820 kg
Total weight:	99.574 kg	61.499 kg
Duration:	44 days	43 days
Average weight:	2105 grams	2110 grams
Mortality:	5,40 %	2,83 %
Feed conversion:	1,82	1,85
ADG (average daily gain):	47,8 grams	49,1 grams

Manure examination:

Clear difference between the treated and untreated manure. In order to evaluate the manure, 100 grams of manure were put into a glass flask and kept at 23°C for 1,5 h. After that, the ammonia concentration was measured in the flask (Kitagawa 10 - 260 ppm).

pH value of the manure:

10 grams of manure were mixed with 20 ml of water, in order to measure the pH value. Due to high solid content of the manure, a measurement of the pH value in the solid manure is not possible.

Dry substance:

The dry substance shows an impact on ammonia blocking and microbial activity. Method: A certain quantity of manure is weighed before and after drying (1 h at 105°C).

Results:

Measurement of concentration in the stables

The following chart contains the results (Van Gorp stable)

Date/week	Date/week	mg/m ³	ppm
16/06	24/06	0,8	1,1
24/06	02/07	7,4	10,4
02/07	09/07	6,2	8,8
09/07	16/07	3,4	4,8
16/07	23/07	3,4	4,9
23/07	28/07	2,2	3,2

Visual assessment of the manure:

The manure of Van Gorp is clearly darker and has a looser/more granular structure. Hardly any wood chips are visible. Organoleptically no ammonia can be detected. The manure of Van Boxem has a clear and strong ammonia odour.

Measurement of ammonia emission:

Results:

Van Gorp	+ - 5 ppm
Van Boxem	>> 260 ppm

pH value measurement of a manure/water solution:

<i>Results</i>	<i>1,5 h</i>	<i>5 h</i>
Van Gorp	6,7	6,7
Van Boxem	8,9	8,2

Measurement of dry substance:

Results:

Van Gorp	66 %
Van Boxem	71 %

Discussion of the results:

The results clearly show, that PGE Bioprotector has a positive impact on the ammonia emission. The clearly differing pH values of the treated and untreated manure, show that the Uricase activity is influenced/ blocked. Based on the results of the conducted trials it can be stated, that PGE Bioprotector is able to reduce the ammonia level during the whole breeding period.