

# **The Russian Academy of Agriculture**

## **The State Research Institution**

### **The All-Russia Scientific Research Vet Institute of Poultry Breeding**

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#### **The report on the results of the research of the influence of the chemical solution AQUAECA on the virus infection H5N3 (the virus of the bird flu of the fifth serum type) and the influence of this solution on the development of the chicken embryo**

Per the order of the NPP “Izumrud” Ltd. placed within the period of 20.10.2005 to 28.02.2006 on the agreement N31 dated 20.10.2005 there were investigations undertaken to research the disinfecting influence of the solution AQUAECA on the virus infection H5N3 and on the chicken birth (hatching) in the case of coating the egg shell with the solution and injecting this into the chicken embryo (REC).

For undertaking the research there have been presented 4 sets of AQUAECA : the 1<sup>st</sup> set -2 examinations, the 2<sup>nd</sup> set -2 examinations, the 3<sup>rd</sup> set – 4 examinations, the 4<sup>th</sup> set – 2 examinations.

AQUAECA was produced: the 1<sup>st</sup> set in September 2005, 2<sup>nd</sup> set – in October 2005, the 3<sup>rd</sup> set – in January 2006, the 4<sup>th</sup> set – in January 2006. In the represented sets the concentration of hydrogen ions pH was from 5,0 to 8,0 the concentration of the active chlorine C.ax – from 400 to 800 mg/l.

The research has used the virus of the bird flu of the fifth serum type (H5N3) – 4 sets with glue activity from 1:128 to 1: 256; infection activity ALD 50/ml from  $10^{-8,45}$  to  $10^{-8,75}$ .

The developing chicken embryos of the 10-day period of incubation have been used for the research.

On the basis of the research, the following conclusions have been made:

1. AQUAECA does not play an inhibiting influence on the birth (hatching) of the chickens, both in the case of coating the egg shell and injecting this into the embryo in amount of 0,2 ml. The born chickens were capable of living.

AQUAECA used for coating the egg shell and injecting into the embryo had pH from 5,0 to 8,0, the concentration of the active chlorine was 500 mgr/liter.

2. AQUAECA has the coagulating influence on the virus containing extra embryo liquid (kills the virus activity)

The control of the virus presence in the coagulated extra embryo liquid was undertaken through injecting the 0,2 ml of coagulated extra embryo liquid with the further incubation during the 96 hours with the temperature  $37 \pm 0.5$  C. After the incubation the investigation on the presence of the living virus has been undertaken. The virus in the coagulated extra embryo liquid **was not found**.

On the basis of the information above, the conclusion has been made that the disinfecting solution AQUAECA kills the virus of the bird flu and is safe for the chicken embryo, chickens and adult poultry.

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