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Test Results The Abaldez Disinfectant In A Poultry Farm.

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ABSTRACT

The article presents the results of the study of the effectiveness of the technology of disinfection of objects at the poultry farm with a new drug abaldez (producer – Partner, Russia). Based on the results of the research, it was developed for veterinary practice and approved the instruction for the use of the drug Abaldez.

Keywords: disinfection, poultry houses, slaughterhouse, drug, regimes, technology, efficiency.

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INTRODUCTION

In the conditions of industrial management of livestock and poultry farming, when a huge number of animals and birds are kept in confined areas, a large amount of microflora accumulates in the air of the premises, incl. and pathogenic, which is the source of occurrence and spread of aerogenic infections [1, 2].

With high bacterial contamination of air in the premises, microclimate parameters deteriorate the safety, growth, and development of animals and birds declines [3].

To reduce bacterial contamination of air at veterinary surveillance and the prevention of aerogenic infections, the search for new, effective, and safe disinfectants is required.

At present, many disinfectants have been created in our country and abroad [5]. However, as practice shows, some of them are not effective enough, others are sources of environmental pollution, and others are very expensive.

Recently, multicomponent disinfectants based on quaternary ammonium compounds, aldehydes, alcohols and oxygen-containing substances have started to be created. Arbicide, ligrocide, virocid, descrete, astradex bioxy, roxacin, etc. have been created.

For wet and aerosol disinfection, we, together with the company "Partner" created a new, the drug abaldez [4, 9], which includes QAS, glutaraldehyde, isopropyl alcohol and other components.

We have developed regimes for wet disinfection in laboratory conditions on test objects. Modes and technology of wet disinfection with Abaldez in production experiments at the sites of veterinary and sanitary supervision have not been developed to date.

Considering the foregoing, our research tasks included finding effective regimes and technology for disinfecting veterinary surveillance facilities with the drug Abaldez.

MATERIAL AND METHODS

The effectiveness of regimens and technology of disinfection of the surfaces of premises and equipment with the Abaldez method was studied in the slaughterhouse and poultry houses for growing chickens of the Kuchinsky Federal State Unitary Enterprise of the Moscow Region.

In the slaughterhouse (premises for the slaughter of poultry, premises for finished products), after washing, disinfection of surfaces and equipment with disinfectant Abaldez produced by Ltd Partner was carried out. Tables, vessels, pen removal apparatus were processed from a hand spray with a 3% solution of the drug at a rate of 0.3 l/m^2 of area, and floors - 0.5 l/m^2; the exposure was 3 hours.

In the premises for finished products, walls, floors, carts, tables, boxes were disinfected with a 2% solution of the product, the exposure was 3 hours.

In the poultry house for growing chickens 1-4 months. with floor contents, after being released from the poultry, cleaning from the litter and washing the surfaces of the premises (walls, floor), brooder and drinking bowls were disinfected with a 3% solution of abaldez at the rate of 0.3-0.5 l/m^2 surface, spraying; the exposure was 6 hours.

Prior to disinfection, flushes were taken from surfaces to determine the initial contamination by their microorganisms, and after disinfection after 3-6 hours exposure to study the quality of disinfection.

From the washings, crops were sown to the medium: IPA, salt MPA, Endo, and Czapek. The crops were grown in a thermostat at 36.5° C for 48 hours, and on Czapek's medium (for the presence of fungi) - at 22-25 °C for 5 days, and then recorded the results of the studies and established the effectiveness of disinfection.

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All studies were carried out in accordance with the guidelines "On the procedure for testing new disinfectants for veterinary practice" (M., 1987, 90 pp.) And "Regulations for disinfection and disinfection of objects of state veterinary supervision" (M., 2002 - 105p.) [6, 8].

RESULTS AND DISCUSSION

The results of experiments on the effectiveness of regimens and technology of disinfection of the surfaces of premises and equipment with abaldez in a slaughterhouse are shown in Table 1.

Table 1: Effect of regimes and technology of disinfection into slaughterhouse by Abaldez disinfectant

Waste collection site	Results of investigations			
	MPA	Salt MPA	Endo	Czapek
Beforedisinfection				
Premises for slaughter of a bird				
Wall	+	-	+	-
Floor	+	+	+	-
Table	+	+	-	-
Capacity	+	+	-	-
Apparatus for removing the plumage	+	+	+	+
Premises for finished products				
Wall	+	+	-	-
Floor	+	+	-	-
Table	+	+	-	-
Truck	+	+	-	+
Box	+	+	+	-
After disinfection				
Premises for slaughter of a bird				
Wall	-	-	-	-
Floor	-	-	-	-
Table	-	-	-	-
Capacity	-	-	-	-
Apparatus for removing the plumage	-	-	-	-
Premises for finished products				
Wall	-	-	-	-
Floor	-	-	-	-
Table	-	-	-	-
Truck	-	-	-	-
Box	-	-	-	-

Note: (-) – no growth of microorganisms; (+) – the presence of growth of microorganisms.

From the data in Table 1, it can be seen that all surfaces in the premises of the slaughterhouse before disinfection were contaminated with microflora, incl. and staphylococci (except the walls). The intestinal wand was seeded with walls, floors, and apparatus for removing the pen, mushrooms - apparatus for removing the pen.

In the premises for finished products, E. coli was seeded with boxes and mushrooms with carts.

After disinfection of all surfaces of premises and equipment with 2% and 3% solution of Abaldez at an exposure of 3 hours, microflora and fungi were completely inactivated, which indicates the high efficiency of the tested regime and the technology of using the new drug.

The results of experiments to study the effectiveness of the regime and technology of disinfection of poultry houses and equipment with Abaldez disinfection are given in Table 2.

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Table 2: Effect of the regime and technology of wet disinfection in poultry houses and equipment with Abaldez

Waste collection site	Dose of the drug, l/m^2	Results of investigations			
		MPA	MPA	MPA	MPA
Before disinfection					
Wall (concrete)	0,3	+	+	+	-
Partition (wood)	0,3	+	+	+	-
Floor (concrete)	0,5	+	+	+	+
Brooder (iron)	0,3	+	+	+	-
Feeding trough	0,3	+	+	+	+
(plastic)	0,3	+	+	+	-
After disinfection					
Wall (concrete)	-	-	-	-	-
Partition (wood)	-	-	-	-	-
Floor (concrete)	-	-	-	-	-
Brooder (iron)	-	-	-	-	-
Feeding trough	-	-	-	-	-
(plastic)	-	-	-	-	-

Note: (-) – no growth of microorganisms; (+) – the presence of growth of microorganisms.

From the data in Table 2, it follows that prior to disinfection all the surfaces in the poultry house were heavily seeded with E. coli and staphylococci, and the floor and feeders with fungi.

After disinfection of the surfaces in the poultry house by a 3% solution of Abaldez at the rate of 0.3-0.5 l/m^2 at an exposure of 6 hours, the entire microflora was inactivated, which indicates a high efficiency of regimens and disinfection technology.

CONCLUSION

Commission experiments conducted at the slaughterhouse and poultry houses of FSUE KPP Kuchinsky showed that the developed regimes and technologies for the use of the new disbalant, Abaldez, provide high efficiency in decontaminating the surfaces of premises and equipment and are recommended for use in veterinary practice.

As a result of the conducted studies, it was established that the drug abaldez has a high bactericidal and sporicidal activity. Thus, intestinal rods are inactivated by a 2% solution of the drug at a disinfection expenditure of 0.3 l/m^2 and 6 hours exposure, and staphylococci and fungi are destroyed by a 3% solution of abaldeza at a drug consumption of 0.3-0.5 l/m^2 and an exposure of 6 hours.

The tested regimens and technology of using the drug Abaldez can be used for preventive and forced disinfection of veterinary surveillance in livestock, poultry and fur farming.

The obtained results of production and commission experiments allow us to recommend the drug abaldez for veterinary practice.

For poultry farms and farms, instructions have been developed and approved for the use of the Abaldez facility for the disinfection of veterinary surveillance facilities.

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