



## Methods of prevention and control of pasteurellosis of ruminants

*Associate Professor*

**Zumrat Jaxongirovna Shapulatova.,**

*candidate of v.s*

**Garik Daniyelovich Sarukhanyan,**

*assistants*

**Umida Husniddinovna Ruzikulova and**

**Jonibek Khairullayevich Kurbanov**

**Samarkand Institute of Veterinary Medicine**

**Republic of Uzbekistan ., Samarkand**

**Annotation:** Laboratory tests of the quality of an experimental aluminum hydroxide vaccine against pasteurellosis, prepared from local strains of pasteurella cultures, with the aim of improving the prevention and control of pasteurellosis in ruminants.

**Keywords:** Pasteurella, vaccine, Romanovsky Gimza, agglutination, antibody, meat peptone broth, meat peptone agar, Suslo agar, Kitt-Tarossi.

**Introduction.** Pasteurellosis is a disease common in most agricultural, wild animals and poultry, characterized by septicemia and hemorrhagic-inflammatory processes. Sometimes aggravated by viral and bacterial infections in the form of semi-acute and chronic or secondary disease (3,5,7,8,9,11, 16, 17).

It is known that pasteurellosis of ruminants causes great economic damage to livestock, high morbidity and mortality, the disease spreads over a large area in a very short time, a lot of money is spent on prevention and control measures (1,3,5,9, 11,12,13,14). Therefore, the study of the etiology, epizootiology of the disease in livestock farms, timely and accurate diagnosis, application of modern diagnostic methods, improvement of control measures, prevention and treatment, it is important to identify effective antibacterial drugs (4,8,9,17). Tadqiqotning maqsadi.

Laboratory testing of the quality of an experimental hydroxyluminous farmol vaccine against pasteurellosis prepared from local pasteurella cultures in order to improve the prevention and control of ruminant pasteurellosis.

**Research materials and methods.** In order to improve the prevention and control of ruminant pasteurellosis, we tested in the laboratory the quality of the experimental hydroxycalumin farmol vaccine against pasteurellosis prepared from local pasteurella cultures. We prepared ointments from the vaccine, stained them using Gram and Romanovsky Gimza methods, and studied the morphology of pasteurella under a microscope.

To determine sterility, the vaccine sample was inoculated into meat peptone broth, meat peptone agar, meat peptone broth with 5% serum, meat peptone agar, Suslo agar, Kitt-Tarossi nutrient media, and inoculated at 37°C and 28°C. We kept it in a thermostat at C for 10 days. To determine its safety, the vaccine was injected subcutaneously in 0.5 ml per 10 white mice and 3 ml subcutaneously in 4 lambs. The experimental animals were observed for 10 days.

### Research results. Harmlessness of the hydroxaluminum formol vaccine against pasteurellosis in farm animals.

1-table

Groups	Kind of animal	Amount	Amount of vaccine	Method of input	Period of following	Results
Practice	White mouse	10	0,5 ml	Into skin	10 days	Not noticed negative results
Practice	lamb	4	3 ml	Under skin	10 days	Not noticed negative results

As a result, no adverse changes were observed in the experimental animals for 10 days (Table 1).

We conducted studies to determine the efficacy and immune activity of the vaccine in 6 head of sheep. Dividing the sheep into two groups, we vaccinated the three head sheep in the first group by subcutaneous injection of the experimental pasteurellosis vaccine at a dose of 2 ml for the first time and 3 ml for the second time 14 days later. The second group was controlled and the sheep were not vaccinated (Table 2). During the experiment, the sheep were kept under constant surveillance. Their general condition, body temperature was checked. In vaccinated sheep, body temperature rose slightly (0.5–1.00°C) on the first and second days, the injection site swelled slightly, and these changes returned to normal within 3–4 days of the experiment, returned 360 days after vaccination, he was infected with the pasteurellosis pathogen LD100 (25 billion mt).

From the 2nd day of the disease, the control group showed signs of weakness, hair loss, fever, shortness of breath, and rapid heartbeat after infection with the pathogens. Symptoms included runny nose and eyes, cough, shortness of breath, and bloody diarrhea, and all unvaccinated sheep in the control group died of pasteurellosis during the experiment.

Table 2

### Results of a study of the efficacy of a hydroxaluminous farmol vaccine against pasteurellosis in farm animals.

T/r	Name of groups	Amount of animals	Amount of vaccine		Method of vaccine	harmless		Result
			1 time	2 time		amount	method	
1	I practice	3 sheep	2 ml	3 ml	Into skin	25bln m.t.	Stomach space	life
2	II research	3 sheep	-	-	-	25 bln m.t.		3 head of died

We studied the dynamics of antibody titers against pasteurellosis in the agglutination reaction of vaccinated sheep serum. Blood was taken from experimental sheep on days 10, 20, 60, 180, and 360. To carry out the agglutination reaction, we prepared a pasteurellosis antigen from pasteurilla cultures grown on meat peptone agar with 0.2% glucose and 10% normal whey.

**Table 3**

**Dynamics of antibody titers (AR) against pasteurellosis in vaccinated sheep serum**

group	sheep №	Till research	Days (after vaccine)				
			10	20	60	180	360
I-group	1	1:200	1:400	1:800	1:1600	1:2400	1:1600
	2	1:200	1:400	1:400	1:800	1:1600	1:1600
	3	1:100	1:400	1:800	1:1600	1:2400	1 :2400
	M	<b>167</b>	<b>400</b>	<b>667</b>	<b>1333</b>	<b>2133</b>	<b>1867</b>
II-group	1	1:200	1:200	1:200	1:200	1:400	1:200
	2	1:100	1:200	1:200	1:400	1:400	1:200
	3	1:200	1:200	1:200	1:100	1:100	1:100
	M	<b>167</b>	<b>200</b>	<b>350</b>	<b>370</b>	<b>395</b>	<b>360</b>

**Conclusions:** Laboratory studies of the immunogenic properties of the hydroxaluminous farmol vaccine against pasteurellosis in farm animals have shown that the titer of specific antibodies against pasteurellosis in sheep serum averaged 1: 667 at 20 days and 1: 1333 at 60 days , 1:2133 at 180 days, 1:1867 at 360 days.

**Analysis of the literature used.**

1. Abdalimov S.A., Parmanov J.M. Primneniye giperimmunnix sivorotok pri pasterellyoze oves // Vtoraya mejd. nauch. konf. Sbornik mater. konf. - Samarkand, 2004. p. 12-13
2. Abdalimov S.A., Parmanov J.M., Elmuradov B.A. Sheep pasteurellosis // Third Res.II-Amal. konf. ma'r. Collection of texts.- Samarkand, 2004 - p. 9.
3. Bozorov HK, Parmanov MP, Qambarov A. Autovaccine against pasteurellosis and some of its features // conf. ma'r. text collection. Samarkand, 2006. 96-97.
4. Bulxanov R.U. Vaccines for veterinarians, developed methods of radiation biotechnology // Act. vopr. pr-va i prim. Vet. Bio. Prep. Matt. 1 Mej. nar. nauch. prak. konf. Almaty, 2004. pp.177-181
5. Bulkhanov R.U., Ryasnyanskiy I.V. Mirzayev B.Sh. Prevention of pasteurellosis, salmonellosis and colibacillosis in lambs // conf. maar text. package. Samarkand. 2004. - 25 p.
6. Vorobyev A.A. and dr. Medicine microbiology, virology and immunology, M.OOO «Medical information agency», 2008.- p. 381-387.
7. Gavrish V.G., Kolyujniy I.I. Spravochnik veterinarnogo vracha. Izd. 3-y, ispr. I dop.- Rostov n / D: izd-vo "Phoenix", 2001 -576 p.
8. Gaynutdinov R., Kharitonov M.V. Metodicheskie rekomendasii - NST - test for the diagnosis of pasteurellosis large horned cattle. Kazan, 2008.
9. Gaynutdinov R., Kharitonov M.V. Rationalizlock predlojeniye № 478-08. - «Ekspress-metod indikasii vobzuditelya pasterellyoza iz patologicheskogo materiala», KGAVM im. N. E. Baumana 14.03.2008.
10. G'aniyev I., Elmuradov B.A. Course and clinical signs of sheep pasteurellosis. Four. ilm.- amal. konf. ma'r. text collection. Samarkand, 2008. 94-96 p.
11. Djupina S.I. Faktorniye infektsionniye bolezni jivotnix // Journal of Veterinary Medicine, 2001. -№3.- p.6-9.

12. Elmuradov B.A. Detection of mixed bacterial infections in calves. Journal of Agriculture of Uzbekistan. Tashkent 2002, №3. 63 b.

13. Kislenko V.N. Practicum on veterinary microbiology and immunology. Kolos S Publishing House, 2005. -232 p.

14. Kolichev N.I., Gosmanov R.G. Veterinary microbiology and immunology. M. «Kolos», 2003. -253 p.

15. Kislenko V.N., Kolichev N.I., Suvorina O.S. Veterinary microbiology I immunology. Kolos S Publishing House, 2007. -215 p.

