

ISSN 2224-526X

ҚАЗАҚСТАН РЕСПУБЛИКАСЫ
ҰЛТТЫҚ ҒЫЛЫМ АКАДЕМИЯСЫНЫҢ
Қазақ ұлттық аграрлық университеті

Х А Б А Р Л А Р Ы

ИЗВЕСТИЯ

НАЦИОНАЛЬНОЙ АКАДЕМИИ НАУК
РЕСПУБЛИКИ КАЗАХСТАН
Қазақстан Республикасының
Ұлттық аграрлық университеті

IZVESTIÂ

NATIONAL'NOJ AKADEMII NAUK
RESPUBLIKI KAZAHSTAN
Kazakh national
agrarian university

SERIÂ AGRARNYH NAUK

2 (50)

MARCH – APRIL 2019

PUBLISHED SINCE JANUARY 2011

PUBLISHED 6 TIMES A YEAR

ALMATY, NAS RK

Б а с р е д а к т о р

Есполов Т.И.,

э.ғ.д, профессор,

ҚР ҰҒА академигі және вице-президенті

Р е д а к ц и я а л қ а с ы:

Байзақов С.Б., э.ғ.д, проф., ҚР ҰҒА академигі (бас редактордың орынбасары); **Тиреуов К.М.,** э.ғ.д, проф., ҚР ҰҒА академигі (бас редактордың орынбасары); **Елешев Р.Е.,** т.ғ.д., проф., ҚР ҰҒА академигі; **Рау А.Г.,** т.ғ.д., проф., ҚР ҰҒА академигі; **Иванов Н.П.,** в.ғ.д, проф., ҚР ҰҒА академигі; **Кешуов С.А.,** т.ғ.д., проф., ҚР ҰҒА академигі; **Мелдебеков А.,** а.ш.ғ.д., проф., ҚР ҰҒА академигі; **Чоманов У.Ч.,** т.ғ.д., проф., ҚР ҰҒА академигі; **Елюбаев С.З.,** а.ш.ғ.д., проф., ҚР ҰҒА академигі; **Садыкулов Т.,** а.ш.ғ.д., проф., академигі; **Баймұқанов Д.А.,** а.ш.ғ.д., проф., ҚР ҰҒА корр-мүшесі; **Сансызбай А.Р.,** а.ш.ғ.д., проф., ҚР ҰҒА корр-мүшесі; **Умбетаев И.,** а.ш.ғ.д., проф., ҚР ҰҒА академигі; **Оспанов С.Р.,** а.ш.ғ.д., проф., ҚР ҰҒА құрметті мүшесі; **Олейченко С.И.,** а.ш.ғ.д., проф.; **Кененбаев С.Б.,** а.ш.ғ.д., проф., ҚР ҰҒА корр-мүшесі; **Омбаев А.М.,** а.ш.ғ.д., проф. ҚР ҰҒА корр-мүшесі; **Молдашев А.Б.,** э.ғ.д., проф., ҚР ҰҒА құрметті мүшесі; **Сагитов А.О.,** б.ғ.д., ҚР ҰҒА академигі; **Сапаров А.С.,** а.ш.ғ.д., проф., ҚР АШҒА академигі; **Балгабаев Н.Н.,** а.ш.ғ.д., проф.; **Умирзаков С.И.,** т.ғ.д, проф.; **Султанов А.А.,** в.ғ.д., проф., ҚР АШҒА академигі; **Алимкулов Ж.С.,** т.ғ.д., проф., ҚР АШҒА академигі; **Сарсембаева Н.Б.,** в.ғ.д., проф.

Р е д а к ц и я к е н е с і:

Fasler-Kan Elizaveta, Dr., University of Basel Switzerland; **Koolmees Petrus Adrianus,** Prof. Dr., Utrecht University, The Netherlands; **Babadoost-Kondri Mohammad,** Prof., University of Illinois, USA; **Yus Aniza Binti Yusof,** Dr., University Putra, Malaysia; **Hesseln Hayley Fawn,** As. Prof., University of Saskatchewan, Canada; **Alex Morgounov,** Pr., International Maize and Wheat Improvement Center Turkey; **Андреш С.,** Молдова Республикасы ҰҒА академигі; **Гаврилюк Н.Н.,** Украина ҰҒА академигі; **Герасимович Л.С.,** Беларусь Республикасының ҰҒА академигі; **Мамедов Г.,** Азербайжан Республикасының ҰҒА академигі; **Шейко И.П.,** Беларусь Республикасының ҰҒА академигі; **Жалнин Э.В.,** т.ғ.д., проф., Ресей; **Боинчан Б.,** а.ш.ғ.д, проф., Молдова Республикасы; **Юлдашбаев Ю.А.,** а.ш.ғ.д, проф., РФА корр-мүшесі, Ресей.

Главный редактор

Есполов Т.И.,

доктор эконом. наук, проф.,
вице-президент и академик НАН РК

Редакционная коллегия:

Байзаков С.Б., доктор эконом. наук, проф., академик НАН РК (заместитель главного редактора); **Тиреуов К.М.**, доктор эконом. наук, проф., академик НАН РК (заместитель главного редактора); **Елешев Р.Е.**, доктор техн. наук, проф., академик НАН РК; **Рау А.Г.**, доктор техн. наук, проф., академик НАН РК; **Иванов Н.П.**, доктор ветеринар. наук, проф., академик НАН РК; **Кешуов С.А.**, доктор техн. наук, проф., академик НАН РК; **Мелдебеков А.**, доктор сельхоз. наук, проф., академик НАН РК; **Чоманов У.Ч.**, доктор техн. наук, проф., академик НАН РК; **Елюбаев С.З.**, доктор сельхоз. наук, проф., академик НАН РК; **Садыкулов Т.**, доктор сельхоз. наук, проф., академик НАН РК; **Баймуқанов Д.А.**, доктор сельхоз. наук, проф., член-корр. НАН РК; **Сансызбай А.Р.**, доктор сельхоз. наук, проф., член-корр. НАН РК; **Умбетаев И.**, доктор сельхоз. наук, проф., академик НАН РК; **Оспанов С.Р.**, доктор сельхоз. наук, проф., Почетный член НАН РК; **Олейченко С.И.**, доктор сельхоз. наук, проф.; **Кененбаев С.Б.**, доктор сельхоз. наук, проф., член-корр. НАН РК; **Омбаев А.М.**, доктор сельхоз. наук, проф. член-корр. НАН РК.; **Молдашев А.Б.**, доктор эконом. наук, проф., Почетный член НАН РК; **Сагитов А.О.**, доктор биол. наук, академик НАН РК; **Сапаров А.С.**, доктор сельхоз. наук, проф., академик АСХН РК; **Балгабаев Н.Н.**, доктор сельхоз. наук, проф.; **Умирзаков С.И.**, доктор техн. наук, проф.; **Султанов А.А.**, доктор ветеринар. наук, проф., академик АСХН РК; **Алимкулов Ж.С.**, доктор техн. наук, проф., академик АСХН РК; **Сарсембаева Н.Б.**, доктор ветеринар. наук, проф.

Редакционный совет:

Fasler-Kan Elizaveta, Dr., University of asel Switzeland; **Koolmees Petrus Adrianus**, Prof. Dr., Utrecht University, The Netherlands; **Babadoost-Kondri Mohammad**, Prof., University of Illinois, USA; **Yus Aniza Binti Yusof**, Dr., University Putra, Malaysia; **Hesseln Hayley Fawn**, As.Prof., University of Saskatchewan, Canada; **Alex Morgounov**, Pr., International Maize and Wheat Improvement Center Turkey; **Андреш С.**, академик НАН Республики Молдова; **Гаврилюк Н.Н.**, академик НАН Украины; **Герасимович Л.С.**, академик НАН Республики Беларусь; **Мамедов Г.**, академик НАН Республики Азербайджан; **Шейко И.П.**, академик НАН Республики Беларусь; **Жалнин Э.В.**, доктор техн. наук, проф., Россия; **Боинчан Б.**, доктор сельхоз. наук, проф., Республика Молдова; **Юлдашбаев Ю.А.**, доктор сельхоз. наук, проф., член-корр. РАН, Россия.

Известия Национальной академии наук Республики Казахстан. Серия аграрных наук.

ISSN 2224-526X

Собственник: ООО «Национальная академия наук Республики Казахстан» (г. Алматы)

Свидетельство о постановке на учет периодического печатного издания в Комитете информации и архивов Министерства культуры и информации Республики Казахстан № 10895-Ж, выданное 30.04.2010 г.

Периодичность 6 раз в год

Тираж: 300 экземпляров

Адрес редакции: 050010, г. Алматы, ул. Шевченко, 28, ком. 219-220, тел. 272-13-19, 272-13-18

<http://agricultural.kz/index.php/en/>

© Национальная академия наук Республики Казахстан, 2019

Адрес типографии: ИП «Аруна», г. Алматы, ул. Муратбаева, 75

Chief Editor

Espolov T.I.,

Dr. economy. Sciences, prof.,
Vice President and academician of the NAS RK

Editorial Board:

Baizakov S.B., Dr. of economy sciences, prof., academician of NAS RK (deputy editor); **Tireuov K.M.**, Doctor of Economy Sciences., prof., academician of NAS RK (deputy editor); **Eleshev R.E.**, Dr. Of agricultural sciences, prof., academician of NAS RK; **Rau A.G.**, Dr. sciences, prof., academician of NAS RK; **Ivanov N.P.**, Dr. of veterinary sciences, prof., academician of NAS RK; **Keshuov S.A.**, Dr. sciences, prof., academician of NAS RK; **Meldebekov A.**, doctor of agricultural sciences, prof., academician of NAS RK; **Chomanov U.Ch.**, Dr. sciences, prof., academician of NAS RK; **Yelyubayev S.Z.**, Dr. of agricultural sciences, prof., academician of NAS RK; **Sadykulov T.**, Dr. Farm. Sciences, prof., academician of NAS RK; **Baimukanov D.A.**, doctor of agricultural sciences, prof., corresponding member NAS RK; **Sansyzbai A.R.**, doctor of agricultural sciences, prof., corresponding member NAS RK; **Umbetaev I.**, Dr. Farm. Sciences, prof., academician of NAS RK; **Ospanov S.R.**, Dr. agricultural sciences, prof., Honorary Member of NAS RK; **Oleychenko S.N.**, Dr. Of agricultural sciences, prof.; **Kenenbayev S.B.**, Dr. Agricultural sciences, prof., corresponding member NAS RK; **Ombayev A.M.**, Dr. Agricultural sciences, Prof. corresponding member NAS RK; **Moldashev A.B.**, Doctor of Economy sciences, prof., Honorary Member of NAS RK; **Sagitov A.O.**, Dr. biol. sciences, academician of NAS RK; **Saparov A.S.**, Doctor of agricultural sciences, prof., academician of NAS RK; **Balgabaev N.N.**, the doctor agricultural sciences, Prof.; **Umirzakov S.I.**, Dr. Sci. Sciences, Prof.; **Sultanov A.A.**, Dr. of veterinary sciences, prof., academician of the Academy of Agricultural Sciences of Kazakhstan; **Alimkulov J.C.**, Dr. of tekhncial sciences, prof., academician of the Academy of Agricultural sciences of Kazakhstan; **Sarsembayeva N.B.**, Dr. veterinary sciences, prof.

Editorial Board:

Fasler-Kan Elizaveta, Dr., University of Basel Switzzeland; **Koolmees Petrus Adrianus**, Prof. Dr., Utrecht University, The Netherlands; **Babadoost-Kondri Mohammad**, Prof., University of Illinois, USA; **Yus Aniza Binti Yusof**, Dr., University Putra, Malayzia; **Hesseln Hayley Fawn**, As. Prof., University of Saskatchewan, Canada; **Alex Morgounov**, candidate of agricultural sciences, International Maize and Wheat Improvement Center Turkey; **Andresh S.**, academician of NAS of Moldova; **Gavriluk N.N.**, academician of NAS of Ukraine; **Gerasimovich L.S.**, academician of NAS of Belorassia; **Mamadov G.**, academician of NAS of Azerbaijan; **Sheiko I.P.**, academician of NAS of Belorassia; **Zhalnin E.V.**, Dr. of technical sciences, professor, Russia, **Boinchan B.**, doctor of agricultural sciences, prof., Moldova; **Yuldashbayev Y.A.**, doctor of agricultural sciences, prof., corresponding member of RAS, Russia.

News of the National Academy of Sciences of the Republic of Kazakhstan. Series of Agrarian Sciences.

ISSN 2224-526X

Owner: RPA "National Academy of Sciences of the Republic of Kazakhstan" (Almaty)

The certificate of registration of a periodic printed publication in the Committee of Information and Archives of the Ministry of Culture and Information of the Republic of Kazakhstan N 10895-Ж, issued 30.04.2010

Periodicity: 6 times a year

Circulation: 300 copies

Editorial address: 28, Shevchenko str., of.219-220, Almaty, 050010, tel. 272-13-19, 272-13-18,
<http://nauka-nanrk.kz/agricultural.kz>

© National Academy of Sciences of the Republic of Kazakhstan, 2019

Address of printing house: ST "Aruna", 75, Muratbayev str, Almaty

NEWS

OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

SERIES OF AGRICULTURAL SCIENCES

ISSN 2224-526X

Volume 2, Number 50 (2019), 66 – 71

<https://doi.org/10.32014/2019.2224-526X.18>

UDC 619:616.988:636.1

**N. N. Yegorova¹, N. P. Ivanov¹, V. U. Sushchikh¹, A. M. Namet¹,
K. M. Shynybaev¹, D. M. Bekenov², M. A. Aliyev³**

¹Kazakh Research Veterinary Institute LLP, Almaty, Kazakhstan,

²Educational, Research and Production Center “Baysyerke-Agro” LLP, Almaty, Kazakhstan,

³“Baysyerke-Agro” LLP, Almaty, Kazakhstan.

E-mail: natalya-egorova60@mail.ru; akademik-vet@mail.ru; vldasali@mail.ru; ainamet@mail.ru;
k.shynybaev@mail.ru; unpcbaysyerke-agro@mail.ru; baisyerke-agro.kz@mail.ru

**EFFICIENCY OF METHODS OF STRUGGLE AGAINST
GASTROINTESTINAL INTESTINAL DISEASES OF CALVES
IN “BAYSERKE-AGRO” LLP**

Abstract. The article presents the results of diagnostic studies of pathological and biological material from calves. The diagnosis was established on the basis of epizootological data, clinical signs, pathological changes, and results of bacteriological and serological studies.

As a result of studies of biological material from newborns of clinically sick calves, the causative agent of colibacillosis *Escherichia coli* was identified and identified. When staging a bioassay on white mice, the animals fell on the second day, which indicates the virulence of the isolated cultures of *Escherichia*, during typing of which they were assigned to the O78 serogroup. Based on the results of diagnostic studies on the farm, health measures were taken. Sick calves were subjected to therapeutic effects of bactericidal antibiotics, as well as symptomatic treatment of animals. After the complex of antiepidemiological, economic, veterinary, sanitary and preventive measures in “Baysyerke-Agro” LLP, there were no cases of colibacillosis among newborn calves. The farm improved from colibacillosis, which had a positive effect on the number of output livestock.

Introduction. Infectious diseases of young farm animals cause enormous economic damage to the republic’s animal husbandry and represent an important veterinary and biomedical problem. The fight against infectious animal diseases is a national problem. Colibacteriosis - an acute infectious disease of young animals in the first days of life, manifested by profuse diarrhea, signs of severe intoxication and dehydration. Calves get sick mainly in the first 1-7 days of life, as well as in the pre- and post-detachment periods. Characterized by the massive incidence of emerging young. The disease occurs in all seasons of the year, but more often in the period of mass calving, farrowing, lambing. The source of the pathogen are sick and ill animals, as well as mothers - carriers of pathogenic *Escherichia*. Infection occurs in utero or during childbirth with non-compliance with hygiene; when feeding colostrum and water, feeding feed contaminated with the causative agent of colibacillosis [1-3].

The leading role in the development of diarrhea of newborn piglets, calves, lambs belongs to enterotoxigenic strains of *Escherichia* with adhesive antigens K88, K99, 987P, F41, F18, A20, Att25 of various O-serogroups.

The causative agent of *E. coli* is a short thick bacillus with rounded ends, mobile (there are flagella), gram-negative, does not form a spore, an aerobic or facultative anaerobic, grows well on ordinary nutrient media, in smears it is located single. To establish the genus and species of *Escherichia*, the identification of biochemical properties and cultivation on special media, Endo, Levin, Kligler, is of great importance.

Colibacteriosis is one of the most common diseases of young stock of all types of farm animals. Calves suffer mainly in the first 1-7 days of life; piglets - in the first days and weeks of life, as well as

during the pre-withdrawal and post-detachment periods; lambs, from the first days of life and up to 5-7 months of age; foals from the first days; fur-bearing animals in 1-5 days and less often in 6-10 days of age. The disease occurs in all periods of the year. Calves and lambs are more likely to get sick in the stall period. The source of the infection pathogen is sick and colibacillosis-infected animals, as well as mothers who carry pathogenic types of *Escherichia*. Animals release the pathogen into the environment with feces, and sometimes with urine. Among young calves during the period of mass calving, lambing, and farrowing, the pathogen is transported on susceptible livestock, as a result of which its virulence increases significantly, which leads to a new outbreak of the disease.

The incubation period of colibacillosis lasts from several hours to 1-5 days. In calves, there are three forms of the disease: septic, enterotoxemic and intestinal (enteric) [4].

Research results. In 2015, cases of death of newborn calves of a daily or two-day age were observed on the farm. Calves were born non-viable and died in the first hours after birth. On January 12, 2015, pathological material from a 7-day-old calf (inventory no. W/n) and an 8-day bull (inventory no. 577759906) were delivered from a private farm in the Talgar district of the Almaty region for research. In sick calves, diarrhea, dehydration, intoxication, fever, and general depression were noted. In calves, a septic form of colibacillosis prevailed, characterized by an acute course, severe diarrhea, septicemia and a rapid onset of death. In some calves, an enterotoxemic form of colibacillosis was observed with a characteristic penetration of pathogenic strains of *Escherichia coli* into the anterior sections of the small intestine and the development of diarrhea. Bacteremia was usually absent, calves died due to toxemia and collapse. The intestinal form manifested as diarrhea with a milder course of the disease in the absence of signs of toxicosis. Mortality was less common than in the first two forms. In calves, hyperacute, acute and subacute course of colibacillosis was noted. Hypertensive course of colibacillosis was manifested mainly in calves of the first 3-5 days of life. The body temperature increased briefly to 40-41 °C, the wool became disheveled, conjunctivitis developed, and depression developed. An acute form of colibacillosis was observed in calves in the first days of life. Figure 1 shows a calf suffering from an acute form of colibacillosis.



Figure 1 – Calf, patient with an acute form of colibacillosis

Figure 1 shows the characteristic posture of a calf suffering from an acute form of colibacillosis. The neck is extended, thrown back, the head rests against the body. One can see the depressed serious condition of the animal.

There was pain when pressing on the abdominal wall, depression, rapid breathing, loss of appetite. Calves' eyes subsided, diarrhea and severe dehydration were expressed. On the first or second day of the disease, the consistency and color of feces changed. First, the faeces are liquefied, then they become gray-white, often frothy, streaked with blood, mucous, then watery. Breathing difficult, superficial, and later rapid. Pulse frequent and weak. Exhausted animals died in a deep coma. The illness lasts 2-3 days.

The subacute course in calves aged 5-10 days was accompanied by the development of secondary microflora of the upper respiratory tract.

In the autopsy study of corpses of calves who died from colibacillosis, pronounced changes in the rectum (punctate or banded hemorrhages) are pronounced. Mass hemorrhages were noted in the small intestine. Lymph nodes swollen and juicy on the cut, sometimes in hemorrhages. Spleen enlarged. In the liver, kidneys, heart, as well as in the muscles, degenerative processes are expressed. The gel bubble is filled and stretched. Hemorrhages were noted under the epicardium and on the endocardium, as well as on other serous integuments. Pulmonary edema, catarrhal inflammation of the lungs was observed.

Diagnosis of colibacillosis. The diagnosis of colibacillosis was established on the basis of the epidemiological, clinical, pathoanatomical data and the results of bacteriological examination of the material.

For bacteriological research, the material from calves (heart pieces, spleen, liver with gall bladder, kidneys, mesenteric lymph nodes, small intestine bandaged from two ends) was transferred from the farm to the bacteriology laboratory of KazSRVI LLP.

For in vivo bacteriological diagnosis, fresh feces from a sick calf not treated with antibiotics were examined. Bacteriological examination includes the isolation and identification of colibacillosis, determination in the agglutination reaction (RA) with colibacillosis diagnostic sera and the production of a bioassay on white mice.

Fresh pieces of the lung, liver, spleen, kidney, mesenteric lymph nodes were delivered. From patmateriala calves (from the liver, spleen, mesenteric lymph nodes, heart, kidney, lung) crops were made on the BCH, MPA, Endo differential diagnostic medium. After 20 hours, the growth of large round colonies was observed on nutrient media. On dense media, weakly convex, translucent colonies with smooth edges and a shiny S-shaped surface were formed. A uniform turbidity and a slight precipitate were observed on the BCH. On the Petri dishes with the Endo medium, brilliant smooth colonies, painted in a bright crimson color with a metallic sheen, grew.

Figures 2 and 3 show the growth of Escherichia on MPA and Endo medium.



Figure 2 – The growth of Escherichia in MPA



Figure 3 – The growth of Escherichia in the Endo environment

In figures 2 and 3, there are visible large round colonies on the MPA and on the Endo medium.

In figure 4, Escherichia is represented in a smear prepared from a daily agar culture isolated from the calf.

The figure shows gram-negative large sticks with rounded ends, located singly.

Escherichia cultures isolated from patmaterial from both calves possessed high enzymatic activity. Escherichia decomposed with the formation of acid and gas: arabinose, galactose, lactose (differential distinction of Escherichia from Salmonella), maltose, mannitol, rhamnase, sucrose. The cultures isolated from calves did not liquefy gelatin, formed indole, did not form hydrogen sulfide (a distinctive feature of Escherichia from Salmonella), reduced nitrates to nitrites, and gave a negative Voges-Proskauer reaction. The mobility of both isolated cultures was noted.

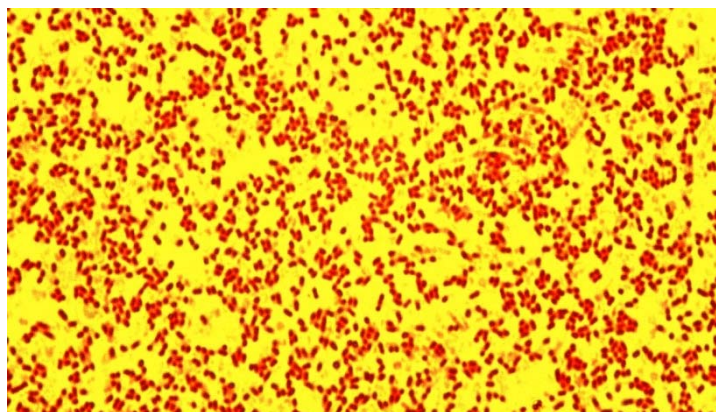


Figure 4 – Culture of Escherichia in a gram-stained smear

The tested cultures agglutinated with diagnostic sera of colibacous OK polyvalent and monovalent dry production of AOOT Biomed them. Mechnikov. The sera contained specific agglutinins to the surface K- and somatic O-antigens. Serum diagnostic escherichiosis OK are preparations obtained from native serum of rabbits hyperimmunized with a mixture of corpuscular antigens of Escherichia. The active principle of the sera is specific K- and O- agglutinins against the antigens of Escherichia pathogenic groups. In the formulation of RA with monovalent serum, both E. coli cultures obtained from calves are assigned to O78 serogroup. Coarse agglutinate is well pronounced, full clarification of the drop was noted with negative control, the reaction was evaluated on four crosses.

The cultures were identified in accordance with the Burge determinant [7].

Based on cultural, morphological, tinctorial, biochemical, and serological properties, both cultures were identified as Escherichia coli.

The virulence of epizootic cultures of E. coli was tested in an experiment on 6 white mice weighing 16–18 g (for each culture, 3 heads). Experimental animals weighing 16-18 g were injected subcutaneously with 0.5 ml daily broth culture of Escherichia. On the third or fourth day, the death of all experienced white mice was observed. An infected culture of Escherichia, not contaminated by extraneous microflora, was sown from the liver and heart of dead mice.

Control measures. Before treating the sick calves the sensitivity of the Escherichia to antibiotics was determined. Started treatment immediately at the first signs of the disease. Bacteriophage, hyperimmune anti-esterichiotic serum, gamma globulin were used. Antibiotics were prescribed in accordance with the results of determining the sensitivity of E. coli, the most effective are (enroxil, flumequin, kanamycin, cobactan, gentamicin, etc.), sulfanilamide (sulfazole, sulfadimethoxin, etc.) and nitrofurantoin (furazolidone, furazidin, etc.) were used simultaneously.) drugs. Symptomatic agents were used intravenously to restore the water-salt metabolism, acid-base balance, neutralize toxins. Symptomatic treatment was carried out in the form of intravenous injections.

Specific prevention is based on carrying out a complex of organizational, economic, antiepidemic, zootechnical, veterinary and sanitary and zoohygienic measures aimed at increasing the resistance of the mothers and young animals, ensuring the hygiene of childbirth, as well as preventing infection of animals through environmental objects. Timely vaccination of pregnant cows and pregnant sows, passive immunization of newborn young animals with specific immune serum and gamma globulins. In the first hours of life, non-specific globulins, ABA, PABA, acidophilus are used as prophylactic agents.

Young animals who have had colibacillosis become immune to subsequent infection. Artificial immunity in newborns is poorly formed, vaccination does not provide the formation of active protection against colibacillosis that occurs in the first days of the animal's life. Therefore, it is necessary to immunize pregnant animals, which provides a high concentration of immune bodies in colostrum. For specific prophylaxis of colibacillosis in the farm, a vaccine against colibacteriosis (escherichiosis) of animals is used. Vaccines associated inactivated against colibacillosis, salmonellosis, klebsiellosis and proteic infection of young farm animals and fur animals (OKZ vaccine), produced by OO Agrovvet, Moscow.

After the complex of antiepidemic and economic activities in “Bayserke-Agro” LLP, there were no cases of colibacillosis among calves. The economy improved from colibacillosis.

**Н. Н. Егорова¹, Н. П. Иванов¹, В. Ю. Суших¹, А. М. Намег¹,
К. М. Шыныбаев¹, Д. М. Бекенов², М. А. Алиев³**

¹Қазақ ветеринария ғылыми-зерттеу институты, Алматы, Қазақстан,

²«Байсерке-Агро ББҒӨО» ЖШС, Алматы облысы, Қазақстан,

³«Байсерке-Агро» ЖШС, Алматы облысы, Қазақстан

**«БАЙСЕРКЕ-АГРО» ЖШС БҰЗАУЛАРДЫҢ
АСҚАЗАН-ІШЕК АУРУЛАРЫМЕН КҮРЕСУ
ӘДІСТЕРІНІҢ ТИІМДІЛІГІ**

Аннотация. Мақалада бұзаулардан алынған патологиялық және биологиялық материалдың балаулық зерттеу нәтижелері келтіріледі. Балауіндеттанулық деректер, клиникалық белгілер, патологоанатомиялық өзгерістер, бактериологиялық және серологиялық зерттеулердің нәтижелері негізінде анықталған. Жаңа туған бұзаулардан биологиялық материалға жүргізілген зерттеулер нәтижесінде клиникалық ауру бұзаулардан *Escherichia coli* колибактериоз қоздырушысы бөлініп алынды. Биопробаны ақ тышқандарда қою кезінде жануарлар екінші тәулікте өлім-жітімге ұшырады, бұл эшерихийдің бөлінген өсінділерінің вируленттілігін растайды, олардың типін ажырату кезінде 078 серотобына жатқызылатындығы анықталды. Балаулық зерттеулер нәтижелері негізінде шаруашылықта сауықтыру шаралары өткізілді. Ауру бұзауларда бактерицидті антибиотиктердің терапевтік әсері байқалды, сондай-ақ жануарларға симптоматикалық емдеу жүргізілді. «Байсерке-Агро» ЖШС індетке қарсы, шаруашылық, ветеринариялық-санитариялық және алдын алу іс-шаралар кешені жүргізілгеннен кейін жаңа туған бұзаулар арасында колибактериоз ауруы байқалмады. Шаруашылық колибактериоздан сауықтырылды, бұл мал басының санының артуына оң әсер етті.

**Н. Н. Егорова¹, Н. П. Иванов¹, В. Ю. Суших¹, А. М. Намег¹,
К. М. Шыныбаев¹, Д. М. Бекенов², М. А. Алиев³**

¹ТОО «Казахский научно-исследовательский ветеринарный институт», Алматы, Казахстан,

²ТОО «УНПЦ Байсерке-Агро», Алматы, Казахстан,

³ТОО «Байсерке-Агро», Алматы, Казахстан

**ЭФФЕКТИВНОСТЬ МЕТОДОВ БОРЬБЫ
С ЖЕЛУДОЧНО-КИШЕЧНЫМИ БОЛЕЗНЯМИ ТЕЛЯТ
В ТОО «БАЙСЕРКЕ-АГРО»**

Аннотация. В статье приводятся результаты диагностических исследований патологического и биологического материала от телят. Диагноз установлен на основании эпизоотологических данных, клинических признаков, патологоанатомических изменений, результатов бактериологического и серологического исследований.

В результате проведенных исследований биологического материала от новорожденных клинически больных телят выделен и идентифицирован возбудитель колибактериоза *Escherichiacoli*. При постановке биопробы на белых мышах животные пали на вторые сутки, что свидетельствует о вирулентности выделенных культур эшерихий, при типировании которых они были отнесены к серогруппе 078. На основании результатов диагностических исследований в хозяйстве проведены оздоровительные мероприятия. Больных телят подвергли терапевтическому воздействию бактерицидными антибиотиками, а также проведено симптоматическое лечение животных. После проведения комплекса противозооотических, хозяйственных, ветеринарно-санитарных и профилактических мероприятий в ТОО «Байсерке-Агро» случаев колибактериоза среди новорожденных телят не отмечалось. Хозяйство оздоровлено от колибактериоза, что оказало положительное влияние на количество выходного поголовья.

Information about authors:

Egorova Natalia Nikolaevna, PhD, leading researcher, Kazakh, Scientific Research Veterinary Institute LLP, Almaty, Kazakhstan; natalya-egorova60@mail.ru; <https://orcid.org/0000-0001-9525-1854>

Ivanov Nikolai Petrovich, chief researcher, doctor of veterinary sciences, professor, academician of the National Academy of Sciences of the Republic of Kazakhstan, Kazakh Scientific Research Veterinary Institute LLP, Almaty, Kazakhstan; akademik-vet@mail.ru; <https://orcid.org/0000-0003-1964-241X>

Sushchikh Vladislava Yuryevna, leading researcher, candidate of veterinary sciences, “Kazakh Research Veterinary Institute” LLP, Almaty, Kazakhstan; vladasali@mail.ru; <https://orcid.org/0000-0002-3520-2257>

Namet Aidar Myrzakhmetuly, chief researcher, doctor of veterinary sciences, Kazakh Scientific Research Veterinary Institute LLP, Almaty, Kazakhstan; ainamet@mail.ru; <https://orcid.org/0000-0001-9639-4208>

Shynybaev Kuandyk Muhametkalievich, senior researcher, Kazakh Scientific Research Veterinary Institute LLP, Almaty, Kazakhstan; k.shynybaev@mail.ru; <https://orcid.org/0000-0002-7702-1390>

Bekenov Dauren Maratovich, director, master of natural sciences and biotechnology, “UNPTs Baysyerke-Agro” LLP Almaty, Kazakhstan; unpcbaysyerke-agro@mail.ru; <https://orcid.org/0000-0003-2244-0878>

Aliyev Murat Ashrafovich, doctor PhD, General Director of Baysyerke-Agro LLP, Almaty region, Kazakhstan, baisyerke-agro.kz@mail.ru; <https://orcid.org/0000-0002-4439-9565>

REFERENCES

- [1] Kadyrov R.A. and others. Veterinary microbiology. M., Kolos, 1982. 301 p.
- [2] Osidze DF. Infectious diseases of animals. M.: Agropromizdat, 1987. P. 198-199.
- [3] Zaroza V. G. Gastrointestinal diseases of calves and measures to combat them. M.: VASHNIL, 1985. P. 12-22.
- [4] Petrov V.M. and others. Recommendations for the prevention and treatment of colibacillosis of calves. Alma-Ata: Kaynar, 1975. P. 5-7.
- [5] Zharov A.V., Shishkov V.P., Zhakov M.S. et al., Pathological anatomy of farm animals / 4th ed., pererab. and add. M.: Koloss, 2003. 568 p.
- [6] Salimov V.A. Pathoanatomical and differential diagnosis of escherichiosis, salmonellosis, pasteurellosis, anaerobic enterotoxemia, candidosis, their associations and complications in young farm animals. M.: Kolos, 2001. 75 p.
- [7] Holt J. Identification of bacteria Burgi. Vol. 1. M.: Mir, 1997. P. 200-202.

Publication Ethics and Publication Malpractice in the journals of the National Academy of Sciences of the Republic of Kazakhstan

For information on Ethics in publishing and Ethical guidelines for journal publication see <http://www.elsevier.com/publishingethics> and <http://www.elsevier.com/journal-authors/ethics>.

Submission of an article to the National Academy of Sciences of the Republic of Kazakhstan implies that the described work has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis or as an electronic preprint, see <http://www.elsevier.com/postingpolicy>), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, including electronically without the written consent of the copyright-holder. In particular, translations into English of papers already published in another language are not accepted.

No other forms of scientific misconduct are allowed, such as plagiarism, falsification, fraudulent data, incorrect interpretation of other works, incorrect citations, etc. The National Academy of Sciences of the Republic of Kazakhstan follows the Code of Conduct of the Committee on Publication Ethics (COPE), and follows the COPE Flowcharts for Resolving Cases of Suspected Misconduct (http://publicationethics.org/files/u2/New_Code.pdf). To verify originality, your article may be checked by the Cross Check originality detection service <http://www.elsevier.com/editors/plagdetect>.

The authors are obliged to participate in peer review process and be ready to provide corrections, clarifications, retractions and apologies when needed. All authors of a paper should have significantly contributed to the research.

The reviewers should provide objective judgments and should point out relevant published works which are not yet cited. Reviewed articles should be treated confidentially. The reviewers will be chosen in such a way that there is no conflict of interests with respect to the research, the authors and/or the research funders.

The editors have complete responsibility and authority to reject or accept a paper, and they will only accept a paper when reasonably certain. They will preserve anonymity of reviewers and promote publication of corrections, clarifications, retractions and apologies when needed. The acceptance of a paper automatically implies the copyright transfer to the National Academy of Sciences of the Republic of Kazakhstan.

The Editorial Board of the National Academy of Sciences of the Republic of Kazakhstan will monitor and safeguard publishing ethics.

Правила оформления статьи для публикации в журнале смотреть на сайте:

www.nauka-nanrk.kz

<http://agricultural.kz/index.php/en/>

Редактор *М. С. Ахметова, Т. М. Апендиев, Д. С. Аленов*
Верстка на компьютере *Д. Н. Калкабековой*

Подписано в печать 12.04.2019.

Формат 60x881/8. Бумага офсетная. Печать – ризограф.

7,2 п.л. Тираж 300. Заказ 2.