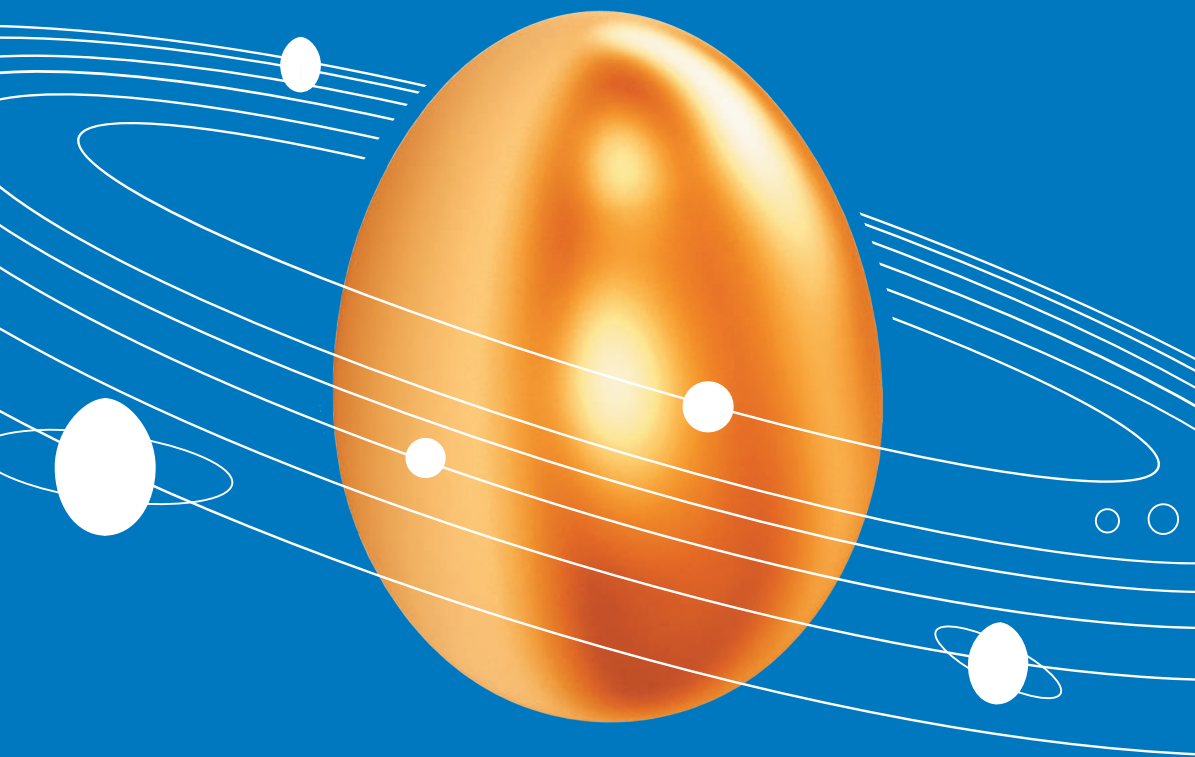
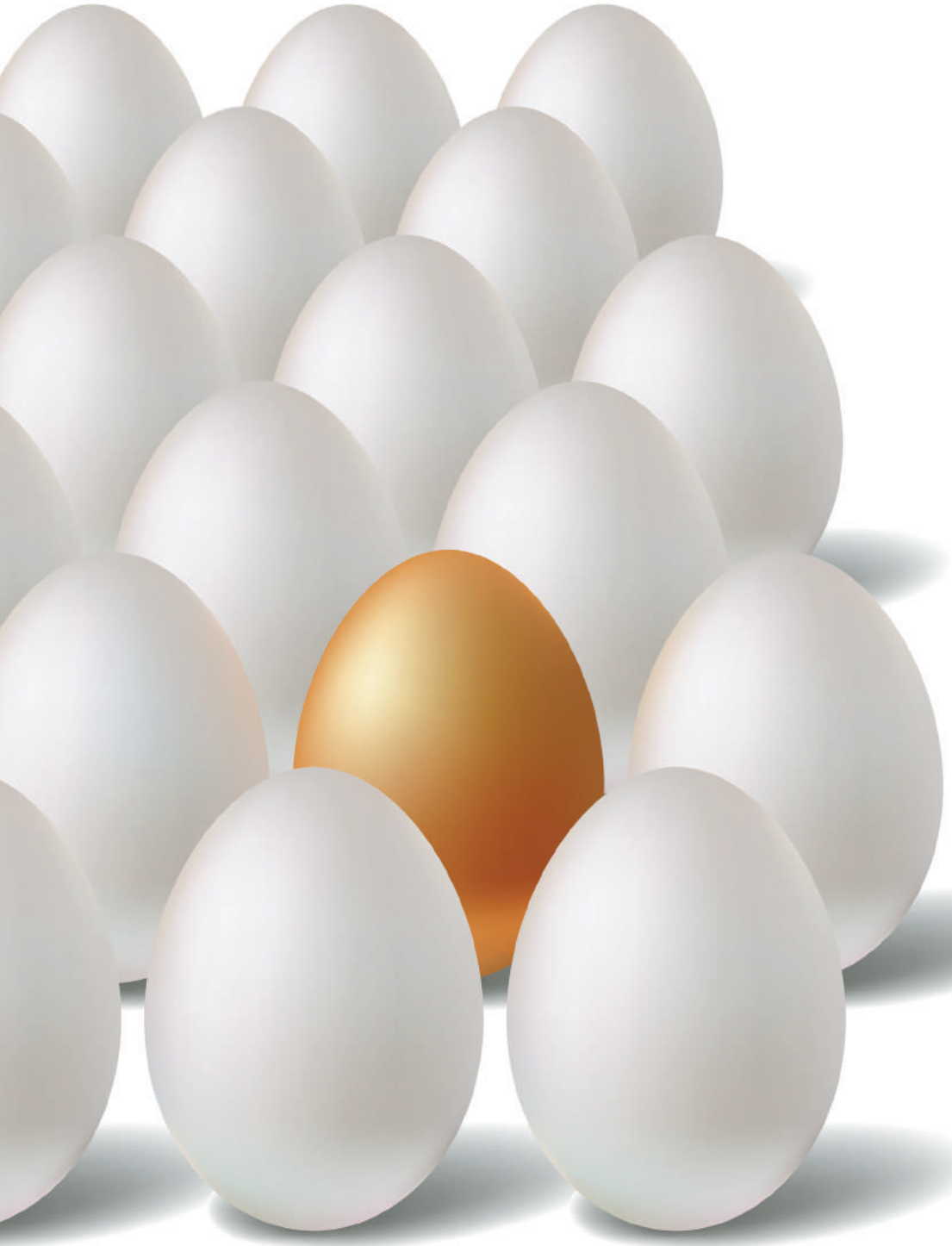
SPE AVIVAC

MODERN SCIENTIFIC RESEARCH AND ADVANCED TECHNOLOGIES FOR POULTRY INDUSTRY



PRODUCTION CATALOGUE

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"АВИВАК"

SCIENTIFIC PRODUCTION ENTERPRISE AVIVAC IS A LEADING RUSSIAN MANUFACTURER OF PREPARATIONS FOR SPECIFIC PREVENTION AND DIAGNOSTICS OF INFECTIOUS AVIAN DISEASES

SPE AVIVAC quarter of the century works at the industrial poultry farming market successfully resolving issues of veterinary providing and epizootic wellbeing of more than a third of poultry farms of Russia, CIS countries and non-CIS countries. At the present time SPE AVIVAC produces more than 70 names of inactivated and live vaccines against a great majority of infectious avian diseases as well as the wide range of diagnostic test-systems. All the preparations of AVIVAC series are registered and have certificates of analysis. The enterprise has a modern manufacturing and research base. Manufacturing facilities of SPE AVIVAC meet the standards and certified for the GMP standard by European experts.

Scientific research in the field of avian bacterial diseases prevention is the pride of the enterprise:

- inactivated vaccines against: colibacteriosis – AVIVAC-COLIVAC, salmonellosis – AVIVAC-SALMOVAC, pasteurellosis – AVIVAC-PASTOVAC and respiratory mycoplasmosis – AVIVAC-RM.

Recent developments work well in practice and are in high demand:

- inactivated emulsion vaccines against: metapneumovirus infection – AVIVAC-PNEUMO, newcastle disease for the use from one day of age – AVIVAC-ND-START.
- live vaccines against: infectious bursal disease AVIVAC-IBD, strain BG, infectious bronchitis from the variant strain A/91 – AVIVAC-IB, newcastle disease using with the drinking method, for broilers – AVIVAC-ND-BROILER.

A large-scale implementation of these vaccines afforded to improve the epizootic situation and raise the economic indicators of poultry farms in Russian Federation and CIS countries.

SPE AVIVAC is focused on the veterinary maintenance of the manufactured products. Veterinary service includes complex approach to infectious diseases diagnostics subject to serological monitoring results for the estimation of the epizootic situation at the poultry farms, analysis of the veterinary handling schemes in accordance with the technological parameters of growing of birds and stock keeping.

SPE AVIVAC produces and sells test-systems for veterinary practice in the basis of different variants of the enzyme immunoassay. The main components of the ELISA kits have a high sensitivity and specificity, are stable upon storage that allows them to hold key positions in diagnostic and scientific laboratories at conducting serological monitoring of the infectious avian diseases. The effective and convenient software compatible to various models of spectrophotometers of both domestic and foreign production is developed for the account, processing and the analysis of results of diagnostic ELISA researches. SPE AVIVAC has its own diagnostic center equipped with the modern facilities. Specialists of the diagnostic center provide consulting and define activity of vaccines. In addition, it is possible to pass training on diagnostic methods of research with use of the test systems released by the company in the Diagnostic Center.

The scientific and research division has qualified personnel, among them - professors, doctors and candidates of science with an extensive experience of scientific practical activities. On the basis of long-term experience of application of preparations of own production at the poultry-farming enterprises of various direction unique approaches and methods on a stabilization of the epizootic situation in different cases in the conditions of different regions are acquired.

Specialists of the enterprise consistently take active part in a development of legal documents, programs, recommendations. Together with Federal State Institution VGNKI participate in development of the national program for prevention and control of salmonellosis of birds. Since 2011 SPE AVIVAC conducts collaboration with Scientific Institution VIEV in development of the new directions in prevention and diagnosis of infectious avian diseases. SPE AVIVAC regularly arranges scientific and practical conferences where modern actual aspects of control of infectious avian diseases on a basis the recent advances of domestic and foreign science and practice are covered.

SPE AVIVAC is the brand identity of quality, attesting the high level of demand and reliability.

We are sure of efficiency of our offers and are ready to business partnership. Our long-term research and production experience in the market of veterinary services for industrial poultry farming – a guarantee of your success!

BRIEF CHARACTERISTICS OF INFECTIOUS AVIAN DISEASES

BRIEF CHARACTERISTICS OF AVIAN INFECTIOUS DISEASES

NEWCASTLE DISEASE (ND) — The NEWCASTLE DISEASE (ND) — highly contagious, widespread viral avian diseases of birds which is characterized by damage of the respiratory and nervous system and also other internals. An infecting agent — a virus from the genus of Paramyxovirus of Paramyxoviridae family. Hens of all age and other bird species are susceptible to ND.

The sick birds and those birds who had a disease are a source of an infection, rarely - mammals and humans. Transmission of a virus happens through air, water, forage, returnable containers, items of care, clothes and footwear of the operating personnel. At an acute course of disease the transovarial transfer of a virus is possible. The disease proceeds in the form of an enzootic, an epizootic, panzootic, in acute, latent, atypical or subclinical forms.

The atypical course of ND is possible at carrying of a virus in the vaccinated herds of birds with the insufficient level of specific antibodies or can be caused by passaging of a pathogenic strain of a virus on an immune livestock that is followed by the change of its antigenic structure and increase in pathogenicity.

At postmortem examination at the birds fallen with signs of classical current of ND, hemorrhages in skeletal muscles are observed, and often a hemorrhagic corbel is found close to border of a muscular and glandular stomach. An intensive defeat of lymphoid follicles with the development of necrotic ulcers — buds is found in intestines. In case of prevalence of defeats of the respiratory track tracheitis, pneumonia, hypostases of the hypodermic celluloses are registered. At an atypical course of ND at chickens enteritis of thin department of intestines and rectum are noted.

Prevention of ND includes a complex of general veterinary, sanitary and specific actions.

For specific prevention of this disease at birds of egg and meat breeds, including in breeding farms, SPE AVIVAC recommends an application of live vaccines of the AVIVAC series from strains La Sota, Bor-74 or B1 and the inactivated vaccine preparations: AVIVAC — ND-Start (it is applied from daily age) and AVIVAC — ND in mono- or in polyvalent combinations that will allow to provide the expressed long immunity on all operation term of a livestock.

Vaccine program against a newcastle disease for every particular poultry farm has to have an individual character and be developed with due consideration of epizootic situation at farms and the region.

The INFECTIOUS BRONCHITIS (IB) — the highly contagious disease which is characterized by damage of respiratory and urogenital systems of birds. The activator — the RNA-containing virus from Coronaviridae family. Hens of all age and chickens up to 30 days age are susceptible to IB.

The sick birds and those birds who had a disease are a source of an infection Transmission of an infection is aerogenic, transovarial, contact. The main way of infection — aerogenic. People and wild birds can be active transporters of an infection.

Clinically the disease is shown by the damage of respiratory organs, kidneys, urogenital track at chickens and a reproductive track with an egg drop at adult hens. Mortality of chickens to 30-day age can reach 25–30%. At chickens of 1-5-month age of IB in most cases proceeds chronically and is complicated by other infectious diseases, mainly of the bacterial etiology. In herd of the adult hens who had the acute form of IB at 1-3-week age there are false layers.

At postmortem examination of the birds seromucous exudate in the nasal cavity and trachea can be found. The fibrin congestion in the place of a tracheal bifurcation in the form of grey-white cords is observed. Kidneys are increased, flabby, with dapple drawing caused by accumulation of uraturia in urinary tubules.

Ureters are filled with urates. Yolk peritonitis is seen in adult birds. The false layers have underdeveloped oviduct or its separate parts.

Economic losses are caused generally by decrease in the meat and egg production compelled by the culling of birds reaching 40–60% and more and sharp decrease in percentage of pullets.

IB virus is capable to change quickly, as a result of it there can be new options and serotypes. Therefore before considering a question of use of the vaccines containing alternative serotypes of IB virus it is necessary to determine the scope of distribution of these serotypes. When problems similar to IB problems are seen in the bird herds vaccinated with Massachusetts serotype vaccine it is possible to claim about the presence of the variant viruses. Such decision can be made on the basis of a research of double serum tests, gene diagnostics and virus shedding. Vaccines based on the new serotypes can be included in the program of vaccination when prevalence of new types is established.

Preventive vaccination of IB is carried out by application of the live and inactivated vaccines to birds, since one day of age. SPE AVIVAC recommends to use live vaccines: AVIVAC-IB, strain H-120 and AVIVAC-IB on the basis of an alternative strain A/91, also the inactivated vaccines in mono- and polyvalent combinations.

METAPNEUMOVIRAL INFECTION OF BIRDS (aMPV) — a viral disease of birds, characterized by the damage of the upper airways. The activator is a virus of Pneumovirus, Paramyxoviridae family. Birds of all age are susceptible to this disease. Sick birds are the source of infection.

Horizontal transfer is the common way of spreading of the infection. It is an aerogenic infection. It is established that IB virus slows down the formation of antibodies to a pneumovirus. Both these factors complicate diagnostics of the metapneumoviral infections and therefore its role in development of a respiratory syndrome. The main clinical signs are rattling, sneezing, nasal mucus flow, conjunctivitis, submaxillary hypostases, swelling of the head. At the postmortem examination the swelling of the connective tissue of head, serous and purulent inflammations of the nasal passages and the infraorbital of sinus, and at complication by a secondary microflora aerosacculitis, pericarditis, enteritis and damages of reproductive organs can be observed.

At a metapneumoviral infection, the accumulation of antibodies in blood serums proceeds very slowly, and broilers go on slaughter before the emergence of antibodies both to field and vaccine strains. Therefore for a serological control of the epizootic status of herd on aMPV it is necessary to carry out serological monitoring of herd replacements, birds of parental herd and layers.

In modern industrial poultry farming aMPV leads to the considerable economic losses in view of deterioration of conversion of a forage, decrease in average daily additional weights, loss of egg production, costs of carrying out the general and specific veterinary and sanitary actions.

For a specific prevention of aMPV SPE AVIVAC offers the inactivated emulsion vaccines with the antigen relating to a subtype B — AVIVAC-PNEUMO and AVIVAC-PNEUMO+ND. Birds are immunized twice: at the age of 5–6 weeks with the subsequent revaccination in 3–4 weeks prior to the beginning of an egg laying.

THE INFECTIOUS BURSAL DISEASE (IBD) is characterized by acute proceeding and highly contagious disease of chickens. The activator is a virus from Birnaviridae family.

Chickens of all age are susceptible to a virus, but more often the disease is observed at 2-15 week old chickens. Birds of egg breeds are more susceptible to IBD virus infection than broilers.

The infected birds, the equipment, stock, forage, water, clothes of the service personnel can be a source of the infection. IBD is characterized by a depression and diarrhea. At a subclinical form of the disease proceeds asymptomatically. IBD is followed by the generalized immunesuppression reducing the immune

status of an organism and raising its susceptibility to the secondary virus and bacterial infections. Morbidity reaches 100%, mortality — 50% and more.

During the postmortem examination of the fallen chickens, the most characteristic pathoanatomical changes are registered in a bursal sac. At an acute course of disease on 3rd–4th day after infection it is increased by 2–3 times, a serous capsule of the organ is edematous and reddened. Serous exudate, bloody fluid and fibrinous cast are accumulated between folds and in a gleam of Bursa. Further in Bursa changes of atrophic character are noted. Hemorrhages on serous covers of bodies of a thoracoabdominal cavity are possible. In intestines the hyperemia and a thickening of a mucous membrane is occasionally possible. At an acute form of a disease in a mucous membrane on border of glandular and gizzard stomachs petechial hemorrhages are noted.

The economic damage consists of death of birds, high percent of rejection of carcasses as a result of exhaustion, hypodermic and intramuscular hemorrhages, decrease in efficiency of vaccination, weakening of stability of a livestock to other agents, costs of elimination and prevention of a disease.

Depending on an epizootic situation in poultry farms live vaccines made of virus strains of various degree of an attenuation are applied for a specific prevention against IBD. At a safe situation there are applied mild and intermediate vaccines, at threat of developing of a disease — intermediate vaccines, at an unsuccessful situation — hot vaccines.

REOVIRUS INFECTION OF BIRDS (REO) — a disease which is followed by damage of the lower extremities, and internals of birds. The agent is a virus from Reoviridae family. Chickens after hatching are most susceptible to infection of REO, further their sensitivity to infection decreases.

Infection source — ill birds and the birds who had a disease allocating a virus in the environment in a large quantity with a poultry manure. Transmitting of the agent is horizontal and vertical (transovarial). Infection is alimentary and aerogenic. Long virus infection carrier state is inherent in a disease.

Young growth usually has typical clinical signs: lameness, hock joint problems. At an inflammation a necrosis, tendon rupture crook toe deformity is observed.

Mortality of chickens — 1–20%. Exhaustion, egg drop by 15–20% is observed at the adult hens.

During postmortem examination of the fallen birds at a subacute form of the disease-accumulation of the exudate is note. Articular cartilage erosion can be observed.

Joints are edematous, enlarged. Tendons have fibrous structure, can be necrotized and torn. Damages of internals are more expressed at young growth and are shown by catarrhal enteritis, increase in kidneys, and at a chronic current — existence in them of grayish local areas.

For specific prevention from REO there are used live and inactivated vaccines. SPE AVIVAC recommends to use a live vaccine AVIVAC–REO, strain 1133 for the chickens of 5-7-day age and the inactivated vaccine AVIVAC–REO in mono - and polyvalent combinations for birds 6-7-week age with the subsequent revaccination no later than in 3–4 weeks before egg-laying. Before application, the live vaccine of AVIVAC–REO is diluted with the diluent which is delivered together with a vaccine.

INFECTIOUS LARYNGOTRACHEITIS (ILT) — a high-contagious disease of gallinaceous birds, characterized by a hemorrhagic inflammation of a throat, trachea and death of birds from asphyxia. The activator — a virus from the sort Alphaherpesvirus. Growing birds (up to 1 year old) are mostly predisposed to a disease.

Infection source — ill birds and the birds who had a disease and more than two years remain carriers of the virus. The main way of infection — aerogenic. Entries of infection are nasal and oral cavities and a conjunctiva. Spreading of the virus happens through the air, forage, water, equipment, items of care, overalls.

There are acute, subacute, chronic and asymptomatic forms of the diseases. Specific clinical symptoms include nasal mucus flow and the wet rales accompanied with cough and the roaring. At the acute forms dyspnea and the rheuma painted by blood are observed. Quite often there are noted rhinitis, sinusitis, conjunctivitis, a panophtalmiya. Pronounced egg drop up to 30–50% is observed. Mortality can reach 50%.

At postmortem examination of the fallen birds can be revealed a hemorrhagic inflammation of a trachea which is filled with plugs of clots of blood or slime with blood inclusion.

The congestive hyperemiya of parenchymal organs, cardiac enlargement, small haemorrhages of the epicardium are observed.

For specific prevention from ILT there are used live attenuated vaccines. It is recommended to carry out vaccination of birds against ILT only in regions, which are unsuccessful on this disease. For this purpose we recommend to use live vaccine AVIVAC-ILT, strain VNIIBP. Birds are immunized twice: the first time at the age of 25–30 days old with the subsequent revaccination in 6–7 weeks that allows to receive the expressed uniform immunity on all term of operation of a poultry flock.

FOWL POX — the infectious disease which is followed by development the pox exanthems on the unfledged skin sites or the diphtheritic damages of a mucous membrane of the oral cavity. The activator — a virus of avian pox from the family of Avipoxviridae. Birds of the 4-12-month-old age are most susceptible to a disease.

Infection source — ill birds and the birds who had a disease, also the forages containing a virus, water, stock, laying, overalls are a source of an infection. The disease is characterized by the immediate contamination, aerogenic and oral contamination as well.

The virus of pox comes into the environment with a detritus of a skin epithelium, and also with mucous flow from an oral and nasal cavity. Carriers of a virus are wild birds, rodents, blood-sucking insects.

Skin, diphtheritic, mixed and atypical forms of pox is observed. Course of disease is subacute or chronic. At a cutaneous pox there can be pocks which can conjugate forming pox crusts on the skin of caruncle, around the beak, wattle and nasal openings, vent, unfledged sites of legs and bodies within 1–2 weeks. Mortality at the cutaneous form reaches 5–8%. At a diphtheritic form on a surface of a mucous membrane of the oral cavity the merging caseous degenerative formings are observed. Birds crane the neck, make the whistling sounds, hardly inhale the air. Mortality at the diphtheritic and mixed forms, especially at growing birds reaches 50–70%.

At the atypical form of pox caseous imposings in the top part of a trachea, fragility of feathers, delay of the beginning of an egg laying of the pullets, at layers — decrease in efficiency to 50% are possible.

At the episode culling of sick birds is carried out daily. Clinically healthy birds are vaccinated. For specific prevention of pox in unsuccessful poultry farms SPE AVIVAC suggests to apply a live vaccine AVIVAC–POX, strain K, at the age of 7–10 weeks at a single dose that allows to receive the expressed uniform immunity during all term of operation of a poultry flock.

EGG-DROP SYNDROME (EDS-76) — the viral disease which is characterized by defeat of genital system of hens, decrease in egg efficiency, deterioration of eggs. The activator — Aviadenovirus.

Laying hens of all breeds with the maximum manifestation of a disease during 140–180 days are susceptible to a disease, but developing of a disease is possible during any period of a productive cycle.

The leading way of transmittion of the activator — transovarial. Especially eggs in the period of a viremia, which on time coincides with efficiency recession, are intensively infected. Characteristic symptoms of a disease are absent. Diarrhea, oppression, small appetite are possible. Mortality of birds the insignificant. The leading symptom of a disease is a decrease in efficiency by 15–30% and in separate herds — 50% and more. In the course of a disease of EDS-76 during 6–8 weeks birds lay eggs with no shells, with the thinned shell, with ring or striate, rough formations on a surface of shells.

Considerably the amount of "marble" egg increases, the percent of egg breakage and check increases. Incubatory qualities of eggs worsen, thus their conception rate decreases and also hatchability and viability of chickens. Pathoanatomical changes in internals of birds at EDS-76 are poorly expressed. Occurrence of cysts is possible, oviduct becomes shorter and thinner, than healthy birds have. In certain cases yolk-sac peritonitis is noted. Liver and a gall bladder are sometimes increased, the gall bladder can be filled with the watery bile.

Prevention of EDS-76 is based on strict observance of the veterinary and sanitary rules, conditions of keeping and feeding of birds in a combination to the specific prevention. AVIVAC–EDS-76 inactivated emulsion vaccine is applied for a specific prevention of a disease in mono - or polyvalent variants. Single administration of this vaccine to birds in 3–4 weeks prior to the beginning of the egg-laying provides the expressed intense immunity on all operation term of a poultry flock.

The MAREK'S DISEASE (MD) — a high-contagious viral disease, at an acute form is followed by formation of lymphoid tumors in the various organs and tissues, at a classical form — damage of sciatic nerves, lumbosacral plexus, more rarely nervus vagus, sympathetic nerve, intercostal nerve, grayish coloring of an iris of the eye and deformation of a pupil. The activator — a virus of Herpesviridae family. Chickens after hatching are most sensitive to MD virus infection.

Infection source — ill birds and the birds who had a disease. Main way of transmitting of the activator — aerogenic, with the dust particles containing epithelial cells of the feather follicles which can contain virus. The ability of the virus to remain on a surface of eggs frequently becomes the reason of reinfection of chickens in the incubator.

At a classical form of a disease the central and the peripheral nervous system are damaged.

Paresis and paralysis of extremities can be observed, change of a form and sizes of a pupil, "grey eyeness". Mortality at a classical form is 3–7%, but can reach also 30%. The MD acute form is followed by formation of lymphoid tumors in various organs and tissues. Mortality at this form reaches 80%. The acute form occurs at birds of 4-12-week age, but disease outbreak at 33-70-week birds is possible.

Pathoanatomical changes at a classical form are shown by focal or diffusion thickenings of the brachial plexus and sacrolumbar nerve plexus, nervous trunks, sciatic nerves. At an acute form the existence of tumors of various configuration and sizes in kidneys, a liver, a spleen, lungs, heart and in other organs and tissues are observed.

A live dry vaccine AVIVAC–MAREK from a strain of FC-126 with a diluent is applied for prevention of MD. Immunization of birds using this vaccine at one day of age creates lifelong protection of the vaccinated flock.

ADENOVIRAL HEPATITIS WITH INCLUSIONS — HYDROPERICARDITIS — virus and contagious infection which is followed by hepatitises, lienitis, pancreatitis, nephrosonephritis, pericarditis and damages of other internals of birds. The activator — a virus of Adenoviridae family. Hens of all breeds and age are susceptible to a disease, chickens suffer from hydropericarditis most often at 3-6-week age, and laying hens — at any age.

Infection source — ill birds and the birds who had a disease. The virus is transmitted by transovarial, aerogenic and alimentary way. Spread of an infection happens with air, water, forage, with equipment etc.

The acute course of disease is followed by 25–75% mortality of chickens. At a chronicity mortality makes 5–7%, thus clinical signs are well expressed at birds for whom the disease comes to the end with a fatal case. At subclinical cases clinical symptoms of a disease can be seen only at separate individuals.

At an acute and subacute forms the following signs can be seen: a flabby liver, “clay liver”, bilious liver. In a pericardial sac a congestion of a serous, transparent, watery or jelly invisible transudation can occur. Lungs are edematous; kidneys and a spleen are increased. At the chronic and a subclinical form generally there are found minor changes in a liver, at the same time but rare in kidneys also.

For specific prevention of adenoviral hepatitis inactivated vaccines are used. The inactivated vaccine AVIVAC–ADENO is used for growing birds of parental herds’ immunization twice: the first time at the age of 10–15 days and the second time at the age of 90–110 days.

THE RESPIRATORY MYCOPLASMOSIS (RM) — the chronic infectious disease of birds which is characterized by damage of respiratory organs. The activator — Mycoplasma gallisepticum. Different types of birds are susceptible to the infection.In industrial poultry farming hens' and turkeys' mycoplasmosis is registered generally at 20-45-day age and then in the period of the beginning of egg laying.

Infection source — ill birds and the birds who had a disease who remain the carriers micoplasmosis for a long time. The infection is characterized by transovarial transmittion and contact transmittion The disease is characterized by a slow distribution in herd and a chronic course which is accompanied by a damage of respiratory organs (guttural rale, nasal mucus flow, swelling of an infraorbital sinus, air-sac infection), exhaustion and loss of efficiency. Mortality makes 5–40%.

Respiratory mycoplasmosis — one of the most economically significant diseases in the industrial poultry farming. The damage is characterized by direct and indirect loss. A direct loss is expressed in the increased mortality of embryos, chickens and hens, decrease in egg efficiency on average for 20% due to reduction of hatching, egg laying is delayed by 2–3 weeks at layers and growth rates of broilers, and also conversion of a forage for 10–15%. Indirect losses are connected with immunosupression that is followed by decrease in resistance of birds to other pathogenic agents and efficiency of specific prevention of viral infections, the increase of frequency of manifestation of postvaccinal complications.

The most widespread means of fight against respiratory mycoplasmosis is the application of chemotherapeutic preparations. At the right choice of the anti-mycoplasma preparations the infection can be suppressed, thus it is almost impossible to get rid of the activator completely. Preparations are necessary to be applied strictly according to Manual on application. Dose choice and schemes of application of preparations have to provide necessary level of their concentration in targets tissues. However at prolonged use the of anti-mycoplasma preparations resistance development occurs at mycoplasmas, it is possible to lower it by means of rotation of chemical preparations or application of the combinations of preparations from different groups.

For fight against mycoplasmas in poultry farming the direction of specific prevention with application of the live and inactivated vaccines is widely developed. The most effective is the integrated approach to the Program of prevention of mycoplasmosis with use of preparations of specific and nonspecific protection. The program is made taking into account application of the inactivated emulsion vaccine AVIVAC–RM in combination with correctly matched scheme of chemoprophylaxis, promotes decrease in level of circulation of the activator in herd, prevention of a vertical transmission of infection and stabilization of the epizootic situation in the poultry farms on RM.

INFECTIOUS SINOVITIS — the infectious disease which is characterized by subclinical damage of respiratory passages, anemia and/or damage of joints and tendon sheath. The activator — M.synovia from a sort of Mycoplasma. Hens, turkeys, ducks, geese etc. are susceptible to a disease.

Infection source — ill birds and the birds who had a disease and the infected incubatory eggs. The main way of infection of birds and transmission of the activator — transovarial transmittion. Incidence rate is 5-15%, sometimes up to 70–75%, mortality can reach 10% and more.

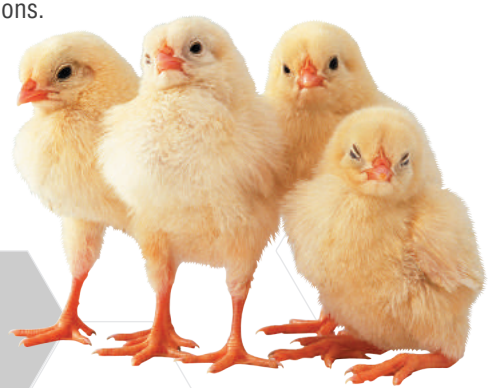
Course of disease — acute, subacute, chronic. Birds have a lameness, slow-moving. Joints of feet are swollen, hot, painful to the touch. In the place of a keel of a chest bone blisters are formed. Growing birds lag behind.

Egg drop increases and deterioration of incubatory eggs is noted. Also M.synovia can cause subclinical damages of respiratory organs.

At postmortem examination of the fallen birds in a cavity of joints there is noted a congestion of serous and serous fibrinous masses. Changes in other organs are not specific.

The diagnosis is made in a complex, taking into account the epizootological, clinical, pathologic data, results of serological, mycoplasma researches and setup of a biological test. For carrying out the serologic examinations SPE AVIVAC recommends the Set of instruments for diagnosis for identification of antibodies of M.synovia in reaction of agglutination — AVIVAC-RA-MS, and also the Set for identification of antibodies of M.synovia by the method of the ELISA of AVIVAC-ELISA-MS.

Prevention and treatment of an infectious sinovitis of birds are carried out by means of chemotherapeutic preparations with the obligatory preliminary determination of sensitivity of the activator to these preparations.



SALMONELLOSIS OF BIRDS — the infectious disease of birds caused by bacteria of Salmonella sort. All species of domestic and wild birds are susceptible to this disease.

Growing birds: turkey poults, chickens are more sensitive to it.

Transmission of the activator happens through forage, water, air, poultry house litter, containers, transovarial way or from a surface of a shell of eggs.

An acute course is characterized by low-mobility, appetite deterioration, rales, impacted crop, diarrhea etc. Growing birds older than 50-day age and adult birds generally have chronical and subclinical salmonellosis course. Adult hens usually are subclinical carriers of this salmonella.

During the pathoanatomical examination enteritis, increase and blood filing of a liver with existence of the necrotic centers can be observed. Pericarditis and pneumonia can also be found. Gall bladder is increased, contains dense dark green bile. During the postmortem examination of the dead embryos there is noted an inflammation of chorioallantoic and yolk membranes, numerous hemorrhages in internals. Sometimes in the head and necks hypodermic subcutaneous oedema can be seen. Fight against salmonellosis is complicated in view of high resistance of the activator to antibiotics and chemical preparations.

The salmonella infection causes economic damage to poultry farming as a result of a decrease in efficiency of laying hens, reduction of quantity the impregnated eggs, losses of additional weights, a lethality of embryos and raised growing birds' mortality.

The main problem of salmonellosis is ability to cause the food toxicoinfection of people. Infection generally occurs at the use of food products contaminated with salmonellas — eggs, meat of birds; also food contaminated with salmonellas in the course of their production, processing, transportation and realization, insufficient culinary processing or stored with violation of the established modes.

Efficiency of chemoprophylaxis of salmonellosis of birds first of all depends on the correctly selected preparations. In this regard, a constant control of sensitivity of salmonellas to the antimicrobic preparations, development on the basis of the obtained data of strategy of rational application of antibiotics for the purpose of increase of efficiency of their application for treatment and prevention of salmonellosis and prevention of emergence polyresistant strains of salmonellas are very important. Taking into account that salmonellas accumulate not only in birds' organisms but also in the environment, especially in a poultry house litter, the importance is attached to competitive microflora (lactobacilli, bifidobacteria, streptococci) and the preparations stimulating its growth.

The most effective is the integrated approach to the Program of prevention of salmonellosis with the use of preparations of specific and nonspecific protection. For a specific prevention of salmonellosis of birds, SPE AVIVAC recommends to use the inactivated vaccine

AVIVAC–SALMOVAC made on the basis of superficial anti-genes of a virulent strain of C-5-AT of S. enteritidis. The vaccine causes formation of the immune response in birds after 14–28 days after a double application, which lasts for 6 months. For protection of birds from a disease during the period of the immune development it is necessary to use the combined application of a vaccine with antibiotics in the recommended doses and schemes.

COLIBACTERIOSIS (colibacillosis, the coli-infection, a colisepticemia, colienteritis) — acute, subacute or chronically proceeding infectious disease of all types of domestic and wild birds, characterized by intoxication, fibrinopurulent and necrotic changes of internals and organs of ovogenesis. An infecting agent — Escherichia coli.

Colibacteriosis causes significant economic damage to industrial poultry farming not only as a result of death of birds but also the culling, decrease gain of live mass of chickens, especially at broilers, deterioration of breeding qualities of a parental herd, carrying out additional veterinary and sanitary actions and increase of costs of carrying out the prophylaxis processings.

All species of agricultural and wild birds are susceptible to a colibacteriosis, but the growing birds of 1-7-day, 25-35-day of age and hens in the period of the beginning of egg-laying are most sensitive.

The main ways of spread of an infection — aerogenic and alimentary. The transovarial transmittiom of E. coli is possible in rare cases.

The course of an infection enzootic, often accepting character of the stationary infections. During the pathonatomical examination of dead and forcedly the killed birds there is note a complex of the following pathoanatomical changes: the fibrinopurulent pericarditis and perihepatitis, air-sac infection, pneumonia. In intestines – exudative-fibrinous, exudative hemorrhagic or gangrenous peritonitis, and an adhesive inflammation of loops of intestines. Kidneys are increased, have gray-brown color, softened. The spleen is not increased, under its capsule there are hemorrhages. Adult birds have ovaritis and salpingitis in reproductive organs.

Many years the accepted system of measures of fight with the colibacteriosis provided a wide use of various disinfectants in the presence of birds, antimicrobic preparations and probiotics. However to get rid of virulent strains of colibacillus using the above mentioned methods not always came to good results. Creation of the inactivated vaccines of a new generation made on the basis of superficial anti-gene complexes (membranes, filaments) and anatoxins became one of the upcoming trends. In SPE AVIVAC the inactivated vaccine against a colibacteriosis AVIVAC–COLIVAC was designed and introduced into practice. This vaccine is made on the basis of the adhesive antigens the toxigenic strains E. coli in mix with hydroxide aluminium or oil adjuvant, in the form of the mono - and bivalent options. The biological product is intended for immunization of hens, turkeys, ducks and geese. The vaccine possesses the expressed protective properties concerning epizootic dangerous isolate E. coli irrespective of their serological accessory and region of allocation. Introduction of a vaccine in veterinary practice provides growth of economic efficiency of poultry farming and considerably cuts down expenses on medical therapy of birds in farms, unsuccessful on a colibacteriosis.

PASTEURELLOSIS OF BIRDS — the infectious disease proceeding with signs of septicaemia, in acute, subacute form or chronically. The activator — bacterium Pasteurella multocida. All types and all age groups of birds are susceptible to pasteurellosis: hens, turkeys, ducks, geese, guinea fowls, pheasants, quails, and also pigeons and majority of species of wild birds.

In the poultry farm the disease can arise as an exogenous infection — the activator comes from the outside, and as an endogenous infection — in the presence of the carriers of pasteurellosis, under the influence of the contributing factors (fodder, biological, physiological stresses, zoohygienic and technological violations).

The disease proceeds in acute, subacute or chronical way. The acute form of pasteurellosis is caused by high-virulent cultures of P. multocida, incidence and mortality of birds in herd daily accrue and by 5–7 days from the beginning of development of the infections without the appropriate organization of veterinary sanitation can reach to 80–90%. For a chronic form of pasteurellosis the serous and hemorrhagic or fibrinous inflammation of jills, tissues of the infraorbital sine and intermaxillary space, joints of extremities can be characteristic features. Birds are exhausted. Sometimes there can be observed fibrinous peritonitis, regeneration and an inflammation of the ovaries.

For the prevention of pasteurellosis of clinically healthy birds in unsuccessful hen houses with the treatment-and-prophylactic purpose there are prescribed sulfanilamides (sulfadimine, norsulfazole sodium), preparations of tetracycline, cephalosporins, fluroquinolone, etc. For a specific prophylaxis there is applied the inactivated sorbed vaccine AVIVAC–PASTOVAC made on the basis of a superficial antigen of a virulent strain No. 115 P. multocida.

INFECTIOUS CORYZA (infectious rhinitis) — an acute enzootic high-contagious disease of the top airways of birds, first of all chickens and hens, characterized by a catarrhal inflammation of mucous membranes of a nasal cavity, conjunctiva and air sinus, and also subcutaneous oedema of the head and in rare instances — pneumonia. The activator — Avibacterium paragallinarum.

Birds of all age, especially chickens more senior than 4-week age are susceptible to this disease. Spread of a disease — horizontal. Infection source — ill birds and the birds who had a disease in which organisms bacteria can remain within 6–12 months.

At young birds the disease begins generally with nonspecific clinical signs, such as oppression, lag in growth, drowsiness. Hens of senior age have sinusitis, hemorrhagic conjunctivitis, serous rhinitis. Syndrome similar to the often observed clinical sign at the metapneumovirus infection can arise.

At postmortem examination there can be observed fibrinous damages of submaxillary space, air sac infection, septic damages of a liver and kidneys.

For a specific prevention of the infection coryza there are applied the inactivated vaccines. The most popular and effective vaccination is the vaccination of laying hens and breeding birds just before the beginning of the egg-laying. Most often vaccination coincides with the planned movement of birds from nursery of replacement chicks to rooms for the maintenance of industrial herd.

Such type of vaccination allows avoiding the considerable losses caused by development of this disease in the period of efficiency peak. However in cases, when the carriage of bacteria comes to light at chickens of early age, it is recommended to carry out double immunization against this infection with an interval between immunizations not less than 6 weeks.

THE FACTORS INFLUENCING THE QUALITY OF VACCINATION

THE FACTORS INFLUENCING QUALITY OF VACCINATION

Efficiency of specific prevention of diseases of birds depends on the efficiency of the vaccinal preparations, correctly developed Program of vaccination, and also a number of the factors influencing quality of vaccination.

The program of vaccination has to be developed specially for each poultry-farming economy according to the production type (broiler, egg, cultivation of birds for industrial or breeding herd), epizootic situation in economy, and also an epizootic situation in the region.

The success of vaccination is influenced by some factors:

- vaccine;
- person;
- birds.

The factor of a vaccine is defined by its qualitative value, a strain choice, storage of a preparation and the program of immunization. The vaccines applied in poultry farming are divided on live and inactivated.

Vaccination by live attenuated vaccines gives fast, but short-lived immunity. Usually the repeated vaccination is required. Specific antibodies after vaccination by the inactivated vaccines are formed more slowly, but provide more resistant and longer immunity.

At a choice of vaccines there should be considered the advantages or shortcomings of vaccinal strains. The chosen vaccine has to correspond to the direction of production and an epizootic situation in the economy. A method of application of the chosen vaccine also has to correspond to the age of birds.

By drawing up the scheme or program of vaccination for each carried out immunization the date of its carrying out has to be precisely defined, based on data of the anamnesis of the previous production parties which are grown up in the economy or on the basis of the results of serological monitoring. It is viable to conduct regular laboratory researches for the purpose of change control of the epizootic situation in the economy. For chickens it is necessary to conduct research on existence and level of maternal antibodies proceeding depending on which level there will be determined vaccination terms.

Live and inactivated vaccines are fragile products, and quality of storage is extremely important factor for ensuring their efficiency. Before application of a vaccine it has to be stored at a temperature from 2 to 10 °C, the period of storage should not exceed an established period of the validity. The human factor is a key factor in the program of

vaccination. It concerns preparation, carrying out the vaccination and monitoring of its results. Despite simple performance of technological stages of vaccination, each wrong step can lead to the loss of the efficiency.

The equipment has to be prepared and checked for serviceability a day before vaccination. At vaccination of birds by a drinking method, “spray”, aerosol, intraocular or intranasal the special attention needs to be paid to the water used at vaccination. Water has to comply with the requirements of microbiological control, have the low metal content, which can neutralize a vaccine virus, also the presence of chlorine in water and any disinfectants cannot be allowed. Preparations “Chicken-blue”, “Aqua-blu”, etc. normalize pH of water and paint the diluted vaccine in intensively blue color, simplifying control of distribution and consumption of the vaccinal preparation by birds.

Vaccination itself is a stressful situation for birds, and it has to be carried out with creation of optimum conditions. It is impossible to stop vaccination after its beginning. Therefore, it is necessary to prepare all materials and the equipment in advance, and also to be convinced of sufficient qualification of the personnel.

Birds are one of the key factors influencing the successful vaccination. The factor of birds is defined by immunological reactivity of their organism and conditions of keeping and feeding of birds in the economy.

The clinical condition of birds needs to be controlled 1–2 days prior to, and within several days after vaccination. It is necessary to remember that the vaccine is effective only when applied on the clinically healthy poultry flock.

Conditions of keeping of birds have to be adjusted optimally to keep the birds calm before and during vaccination.

LIVE VACCINES OF AVIVAC SERIES

NO	Name of preparation	Pharmaceutical form	Main components	Administration
1	Vaccine against newcastle disease, live, dry **AVIVAC-ND st. La-Sota AVIVAC-ND st. Bor-74 AVIVAC-ND st. B1**	Freeze-dried material in glass vials, volume 5,0 cm^3 (100-5000 doses of vaccine in a vial)	1. Virus of newcastle disease (st. La-Sota, Bor-74 VGNKI, B1) 2. Stabilizing medium	Oral, intranasal, intraocular, aerosol
2	Vaccine against newcastle disease, live, dry **AVIVAC-ND-BROILER**	Freeze-dried material in glass vials, volume 5,0 cm^3 (100-5000 doses of vaccine in a vial)	1. Virus of newcastle disease (st. La-Sota, Bor-74 VGNKI) 2. Stabilizing medium	Oral
3	Vaccine against infectious bronchitis, live, dry **AVIVAC-IB AVIVAC-IB-A/91**	Freeze-dried material in glass vials, volume 5,0 cm^3 (100-5000 doses of vaccine in a vial)	1. Virus of infectious bronchitis (st. H-120, or variant strain A/91) 2. Stabilizing medium	Oral, intranasal, intraocular
4	Vaccine against infectious bronchitis and newcastle disease, live, dry **AVIVAC-IB+ND**	Freeze-dried material in glass vials, volume 5,0 cm^3 (100-5000 doses of vaccine in a vial)	1. Virus of infectious bronchitis (st. H-120), virus of newcastle disease (st. La-Sota) 2. Stabilizing medium	Oral, intranasal, intraocular
5	Vaccine against infectious bursal disease, live, dry **AVIVAC-IBD AVIVAC-IBD-AN AVIVAC-IBD-BG**	Freeze-dried material in glass vials, volume 5,0 cm^3 (100-5000 doses of vaccine in a vial)	1. Virus of infectious bursal disease (st.Winterfield-2512) of high or low attenuation (st. BG) 2. Stabilizing medium	Oral
6	Vaccine against avian reovirus tenosynovitis, live, dry, with a diluent **AVIVAC-REO**	Freeze-dried material in glass vials, volume 5,0 cm^3 (500-3000 doses of vaccine in a vial)	1. Virus of reovirus infection (st.1133) 2. Stabilizing medium 3. Diluent	Subcutaneously in the area of the low third of a neck
7	Vaccine against infectious laryngotracheitis, live, dry **AVIVAC-ILT**	Freeze-dried material in glass vials, volume 5,0 cm^3 (500-5000 doses of vaccine in a vial)	1. Virus of infectious laryngotracheitis (st.VNIIBP) 2. Stabilizing medium	Oral, intraocular, aerosol, cloacal
8	Vaccine against avian pox dry, cultural with a diluent **AVIVAC-POX**	Freeze-dried material in glass vials, volume 5,0 cm^3 (100-3000 doses of vaccine in a vial)	1. Virus of avian pox (st.K) 2. Stabilizing medium 3. Diluent	By the method of puncture of the wing web by injector with 2 needles
9	Vaccine against Marek's disease with a diluent **AVIVAC-MAREK**	Freeze-dried material in glass vials, volume 5,0 cm^3 (500-2000 doses of vaccine in a vial)	1. Virus of turkey herpes (st.FC-126) 2. Stabilizing medium 3. Diluent	Intramuscularly, subcutaneously or directly into the embryo of the 18th day of incubation

INACTIVATED VACCINES OF AVIVAC SERIES

NO	Name of preparation	Pharmaceutical form	Main components	Administration
1	Vaccine against newcasle disease (ND), infectious bronchitis (IB), infectious bursal disease (IBD), egg-drop syndrome (EDS-76) and reovirus infection (REO), inactivated, **AVIVAC** Produced in mono-bi-tri-quadrivalent combinations	Emulsion. Vaccine is packed by the volume of 100-500 cm^3 (200-1000 doses) in glass or plastic vials.	1. Inactivated viruses of newcasle disease (st. La-Sota), infectious bronchitis (st. Chapaevsky), infectious bursal disease (st. BG), egg-drop syndrome (st. B8/78) and reovirus infection (st. 1733 and 2408) 2. Oil adjuvant	Subcutaneously in the area of the low third of a neck or intramuscularly in a pectoralis
2	Vaccine against newcastle disease, inactivated **AVIVAC-ND-START**	Emulsion. Vaccine is packed by the volume of 450-500 cm^3 (4500-5000 doses) in glass or plastic vials.	1. Inactivated virus of newcasle disease (st. La-Sota) 2. Oil adjuvant	Subcutaneously in the area of the low third of a neck of chickens of 1-20 day of age
3	Vaccine against methapneumovirus infection, inactivated **AVIVAC-PNEUMO** Produced in bivalent combination with the ND component	Emulsion. Vaccine is packed by the volume of 450-500 cm^3 (900-1000 doses) in glass or plastic vials.	1. Inactivated virus of methapneumovirus infection of birds (st. PVO3-B) 2. Oil adjuvant	Subcutaneously in the area of the low third of a neck or intramuscularly in a pectoralis
4	Vaccine against adenovirus hepatitis with inclusions – hydropericarditis of birds, inactivated **AVIVAC-ADENO**	Emulsion. Vaccine is packed by the volume of 20-500 cm^3 (40-1000 doses) in glass or plastic vials.	1. Inactivated virus strain ADV of the adenovirus hepatitis with inclusions –hydropericarditis of birds 2. Oil adjuvant	Subcutaneously in the area of the low third of a neck or intramuscularly in a pectoralis
5	Vaccine inactivated, emulsive against respiratory mycoplasmosis of birds **AVIVAC-RM**	Emulsion. Vaccine is packed by the volume of 20-500 cm^3 (40-1000 doses) in glass or plastic vials.	1.Inactivated mycoplasma cells of the strain S6 M. gallisepticum 2. Oil adjuvant	Subcutaneously in the area of the low third of a neck
6	Vaccine against salmonellosis, colibacteriosis and pasteurellosis, inactivated, emulsive **AVIVAC-SALMO-COLI-PASTOVAC** Produced in mono-and bivalent combinations	Emulsion. Vaccine is packed by the volume of 20-500 cm^3 (40-1000 doses) in glass or plastic vials.	1. Inactivated: virulent strains P. multocida, S.enteridis (st. C-5-AT), adhesive antigens of the toxic strains E.coli 2. Oil adjuvant	Subcutaneously in the area of the low third of a neck
7	Vaccine against salmonellosis, colibacteriosis and pasteurellosis, inactivated, sorbed **AVIVAC-SALMO-COLI-PASTOVAC** Produced in mono-and bivalent combinations	Suspension. Vaccine is packed by the volume of 20-500 cm^3 (20-500 doses) in glass or plastic vials.	1. Inactivated: virulent strains P. multocida, S.enteridis (st. C-5-AT), adhesive antigens of the toxic strains E.coli 2. Aluminum hydrate	In a wing muscle between radial bone and ulnar bone.

DIAGNOSTIC TEST KITS OF AVIVAC SERIES

NO	Name of the kit	Method	Desease	Quantity of researches
1	Kit for detection of antibodies to newcastle disease virus **AVIVAC-ELISA-ND**	ELISA	Newcastle disease	176
2	Kit for detection of antibodies to infectious bronchitis virus **AVIVAC-ELISA-IB**	ELISA	Infectious bronchitis	176
3	Kit for detection of antibodies to infectious bursal disease **AVIVAC-ELISA-IBD**	ELISA	Infectious bursal disease	176
4	Kit for detection of antibodies to reovirus infection **AVIVAC-ELISA-REO**	ELISA	Avian reovirus infection	176
5	Kit for detection of antibodies to virus of avian encephalomielitis **AVIVAC-ELISA-AE**	ELISA	Avian encephalomielitis	176
6	Kit for detection of the virus of leucosis **AVIVAC-ELISA-LEUCOSIS**	ELISA	Avian leucosis	176
7	Kit for detection of antibodies to avian influenza virus **AVIVAC-ELISA-AI**	ELISA	Avian influenza	176
8	Kit for detection of antibodies to M.gallisepticum **AVIVAC-ELISA-MG**	ELISA	Avian respiratory mycoplasmosis	176
9	Kit for detection of antibodies to M.sinoviae **AVIVAC-ELISA-MS**	ELISA	Infectious avian synovitis	176
10	Kit for detection of respiratory mycoplasmosis **AVIVAC-ELISA-MS**	ELISA	Avian respiratory mycoplasmosis	100
11	Kit for detection of antibodies to M.sinoviae **AVIVAC-ELISA-RM**	HI	Avian respiratory mycoplasmosis	100
12	Kit for detection of antibodies to Newcastle disease virus **AVIVAC-HAI-ND**	HAI	Newcastle disease	270
13	Kit for detection of egg-drop syndrome-76 **AVIVAC-HAI-EDS-76**	HAI	Egg drop syndrome-76	270

LIVE VACCINES OF AVIVAC SERIES

LIVE VACCINES OF AVIVAC SERIES

Live vaccines of the AVIVAC series are made on the basis of high-immunogenic production strains of viruses. SPE AVIVAC. Produces live vaccines intended for a specific prevention of:

- Newcastle disease,
- Chicken infectious bronchitis,
- Infectious bursal disease ,
- Reovirus tenosynovitis,
- Infectious laryngotracheitis,
- Marek's disease,
- Avian pox.

For the manufacturing of live vaccines of the AVIVAC series there are used only SPF-chicken Embryos and cell cultures of different origin.

Vaccines are harmless and can be applied by various methods: aerosol, ocular, intranasal, spray and watering.

At vaccinated birds the immunity providing protection of a livestock from infection with field viruses for more than 6 months is formed.

Live vaccines are used in strict accordance with the "Application instruction".

The program of vaccination is developed taking into account the epizootic situation on the farm and region.

AVIVAC-ND (STRAIN LA SOTA)

Vaccine against newcastle disease, live, dry

Strain La Sota

General provisions

The vaccine is a homogenous dry porous substance, of pale yellow or pale brown color, that easily dissolves in water or physiological solution without forming of flakes and dreg. The vaccine is available in 1 -5 cm^3 vials, hermetically sealed. Each vial contains 100–5000 doses.

Biological properties

One commercial dose of the vaccine corresponds to one nasal dose, being 6,7 lg EID_{50/cm^3} of ND virus, strain La Sota. The immunity of vaccinated chickens is forming during 2–3 weeks and keeps up to 3 months. The vaccine with biological activity no less than 8,5 lg EID_{50/cm^3} is applicable for use. The vaccine is harmless, areactogenic, does not possess therapeutic properties.

Indication for use

Clinically healthy birds of all ages are vaccinated orally, intranasally, intraocularly by coarse spray or by aerosol. Time of vaccination is determined based on antibody level estimated by haemaggltination inhibition test examining 25 blood serum samples collected from the birds in each poultry house by a general method.

Chickens should first undergo serological testing at the age of 5 to 10 days. Birds should be vaccinated if hemagglutinin titers are lower than 1:8 in 20% or more of the samples. If hemagglutinin titers are higher than 1:8 in 80% or more of the samples, the birds should be tested every 3–5 days. If the intensity of immunity is lower than 80% (i.e. if hemagglutinin titers are lower than 1:8 in 20% or more of the samples), the birds should be revaccinated.

Further serological testing should be carried out at intervals of 14 to 28 days.

Revaccination is carried out if antibody levels in blood serum obtained from vaccinated birds and determined by hemagglutination inhibition test are less than 4 log_2 (1:16) in 20% of the samples.

Storage conditions

The shelf life of the vaccine is 12 months from the manufacturing date if kept and transported in a dark dry place at a temperature between +2 and +10 °C.

AVIVAC-ND (STRAIN BOR-74 VGNKI)

Vaccine against newcastle disease, live, dry

Strain Bor-74 VGNKI

General provisions

The vaccine is a homogenous dry porous substance, of pale yellow or pale brown color, that easily dissolves in water or physiological solution without forming of flakes and dreg. The vaccine is available in 1 -5 cm^3 vials, hermetically sealed. Each vial contains 100–5000 doses.

Biological properties

One commercial dose of the vaccine corresponds to one nasal dose, being 6,7 lg $EID_{50/cm3}$ of ND virus, strain Bor-74 VGNKI. The immunity of vaccinated chickens is forming during 2–3 weeks and keeps up to 3 months. The vaccine with biological activity no less than 8,5 lg EID_{50/cm^3} is applicable for use. The vaccine is harmless, areactogenic, does not possess therapeutic properties.

Indication for use

Clinically healthy birds of all ages are vaccinated orally, intranasally, intraocularly by coarse spray or by aerosol. Time of vaccination is determined based on antibody level estimated by haemaggltination inhibition test examining 25 blood serum samples collected from the birds in each poultry house by a general method.

Chickens should first undergo serological testing at the age of 5 to 10 days. Birds should be vaccinated if hemagglutinin titers are lower than 1:8 in 20% or more of the samples. If hemagglutinin titers are higher than 1:8 in 80% or more of the samples, the birds should be tested every 3–5 days. If the intensity of immunity is lower than 80% (i.e. if hemagglutinin titers are lower than 1:8 in 20% or more of the samples), the birds should be revaccinated.

Further serological testing should be carried out at intervals of 14 to 28 days.

Revaccination is carried out if antibody levels in blood serum obtained from vaccinated birds and determined by hemagglutination inhibition test are less than 4 $\log_2$ (1:16) in 20% of the samples.

Storage conditions

The shelf life of the vaccine is 12 months from the manufacturing date if kept and transported in a dark dry place at a temperature between +2 and +10 °C.

AVIVAC-ND (STRAIN B1)

Vaccine against newcastle disease, live, dry

Strain B1

General provisions

The vaccine is a homogenous dry porous substance, of pale yellow or pale brown color, that easily dissolves in water or physiological solution without forming of flakes and dreg. The vaccine is available in 1–5 cm^3 vials, hermetically sealed. Each vial contains 100–5000 doses.

Biological properties

One commercial dose of the vaccine corresponds to one nasal dose, being 6,7 lg EID_{50/cm^3} of ND virus, strain B1. The immunity of vaccinated chickens is forming during 2–3 weeks and keeps up to 3 months. The vaccine with biological activity no less than 8,5 lg EID_{50/cm^3} is applicable for use. The vaccine is harmless, areactogenic, does not possess therapeutic properties.

Indication for use

Clinically healthy birds of all ages are vaccinated orally, intranasally, intraocularly by coarse spray or by aerosol. Time of vaccination is determined based on antibody level estimated by haemaggltination inhibition test examining 25 blood serum samples collected from the birds in each poultry house by a general method.

Chickens should first undergo serological testing at the age of 5 to 10 days. Birds should be vaccinated if hemagglutinin titers are lower than 1:8 in 20% or more of the samples. If hemagglutinin titers are higher than 1:8 in 80% or more of the samples, the birds should be tested every 3–5 days. If the intensity of immunity is lower than 80% (i.e. if hemagglutinin titers are lower than 1:8 in 20% or more of the samples), the birds should be revaccinated.

Further serological testing should be carried out at intervals of 14 to 28 days.

Revaccination is carried out if antibody levels in blood serum obtained from vaccinated birds and determined by hemagglutination inhibition test are less than 4 log_2 (1:16) in 20% of the samples.

Storage conditions

The shelf life of the vaccine is 12 months from the manufacturing date if kept and transported in a dark dry place at a temperature between +2 and +10 °C.

AVIVAC-ND-BROILER (STRAIN LA SOTA)

Vaccine against newcastle disease, live, dry for immunization of broilers

Strain La Sota

General provisions

The vaccine is a homogenous dry porous substance, of pale yellow or pale brown color, that easily dissolves in water or physiological solution without forming of flakes and dreg. The vaccine is available in 2, 0 cm^3 in glass vials with the volume 3,0 cm^3 or in 3,0 cm^3 in glass vials with the volume of 5,0 cm^3, hermetically sealed. Each vial contains 100–5000 doses.

Biological properties

The immune answer of vaccinated chickens is forming during 14 days after a double vaccination and keeps no less than 2 months One vaccination dose contains no less than 7,2 lg EID_{50/cm^3} strain La Sota ND virus. The vaccine is harmless, areactogenic, does not possess therapeutic properties.

Indication for use

The vaccine is intended for immunization of broiler chickens against ND on poultry farms.

Clinically healthy birds of all ages are vaccinated only. Optimal terms of vaccination are determined on the basis of the results of haemaggltination inhibition test (HAI) by examining 25 blood serum samples collected from the birds in each poultry house by a general method.

If in 20% and more tests of serums of blood the titer of antigemagglyutinin will be lower than 3 log_2 (1:8), broiler chickens are vaccinated at the rate of 1 vaccination dose for one head.

Before vaccination the birds are kept without giving water during 1 h. Feeding and giving water to birds is allowed in 2 h after immunization.

For stabilization of a virus it is expedient to add 1% to water (on weight) the dry skim milk or 10% (from volume) skim milk.

Intensity of vaccinal immunity is defined in HAI 14 days after vaccination. At research in HAI a titer of the vaccinal of antibodies to ND virus has to be 4 log_2 (1:16) and higher at no less, than 80% of the vaccinated chickens.

Storage conditions

The shelf life of the vaccine is 12 months from the manufacturing date if kept and transported in a dark dry place at a temperature between +2 and +10 °C.

AVIVAC-ND-BROILER (STRAIN BOR-74 VGNKI)

Vaccine against newcastle disease, live, dry

Strain Bor-74 VGNKI

General provisions

The vaccine is a homogenous dry porous substance, of pale yellow or pale brown color, that easily dissolves in water or physiological solution without forming of flakes and dreg. The vaccine is available in 2,0 cm^3 in glass vials with the volume 3,0 cm^3 or in 3,0 cm^3 in glass vials with the volume of 5,0 cm3, hermetically sealed. Each vial contains 100–5000 doses.

Biological properties

The immune answer of vaccinated chickens is forming during 14 days after a double vaccination and keeps no less than 2 months. One vaccination dose contains no less than 6,6 lg EID_{50/cm^3} strain Bor-74 VGNKI. The vaccine is harmless, areactogenic, does not possess therapeutic properties.

Indication for use

The vaccine is intended for immunization of broiler chickens against ND on poultry farms. Clinically healthy birds of all ages are vaccinated only. Optimal terms of vaccination are determined on the basis of the results of haemaggltination inhibition test (HAI) by examining 25 blood serum samples collected from the birds in each poultry house by a general method.

Broiler chickens are vaccinated if in 20% and more tests of serums of blood the titer of antigemagglyutinin will be lower than 3 log_2 (1:8).

Vaccine is administered with the drinking method.

Before vaccination the birds are kept without giving water during 1 h. Feeding and giving water to birds is allowed in 2 h after immunization.

Intensity of vaccinal immunity is defined in HAI 14 days after vaccination. At research in HAI a titer of the vaccinal of antibodies to ND virus has to be 4 log_2 (1:16) and higher at no less, than 80% of the vaccinated chickens.

Storage conditions

The shelf life of the vaccine is 12 months from the manufacturing date if kept and transported in a dark dry place at a temperature between +2 and +10 °C.

AVIVAC-IB (STRAIN H-120)

Vaccine against chicken infectious bronchitis live, dry

Strain H-120, Massachusetts serotype

General provisions

The vaccine represents itself a homogenous dry porous substance of pale yellow or pale brown color that easily dissolves in water or physiological solution without forming of flakes. The vaccine is available in 1–5 cm^3 in sealed vials. Each vial contains 100–5000 doses.

Biological properties

One commercial dose of the vaccine corresponds to one nasal dose, being 3,5 lg EID_{50/cm^3}. The immunity of vaccinated chickens is forming during 2–3 weeks after the second vaccination and keeps up to 3 months. The vaccine with biological activity no less than 6,0 lg $EID/TC_{50/cm^3}$ is applicable for use.

The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication for use

Clinically healthy birds of all ages are subject to vaccination depending on the epizootic situation of IB. Birds are vaccinated twice at an interval of 10 to 14 days orally, intranasally, intraocularly or via coarse spray.

Storage conditions

The shelf life of the vaccine is 12 months from the manufacturing date if kept and transported in a dark dry place at a temperature between +2 and +10 °C.

AVIVAC-IB (VARIANT STRAIN A/91)

Vaccine against chicken infectious bronchitis live, dry

Strain A/91, serotype 793/B

General provisions

The vaccine represents itself a homogenous dry porous substance of pale yellow or pale brown color that easily dissolves in water or physiological solution without forming of flakes. The vaccine is available in 1-5 cm^3 in sealed vials. Each vial contains 100–5000 doses.

Biological properties

One commercial dose of the vaccine is 3,5 lg EID_{50/cm^3}. The immunity of vaccinated chickens is forming during 2–3 weeks after the second vaccination and keeps up to 3 months. The vaccine with biological activity no less than 6,0 lg EID_{50/cm^3} is applicable for use.

The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication for use

Clinically healthy birds of all ages are subject to vaccination depending on the epizootic situation of IB. Birds are vaccinated twice at an interval of 10 to 14 days orally, intranasally, intraocularly or via coarse spray.

Storage conditions

The shelf life of the vaccine is 12 months from the manufacturing date if kept and transported in a dark dry place at a temperature between +2 and +10 °C.

AVIVAC-IB+ND (STRAIN H-120 AND LA SOTA)

Vaccine against chicken infectious bronchitis live, dry

Strain H-120, La Sota

General provisions

The vaccine is made of extraembryonic liquid of SPF-embryos of hens, infected with the attenuated IB viruses, Massachusetts serotype.The vaccine represents itself a homogenous dry porous substance of pale yellow or pale brown color, that easily dissolves in water or physiological solution without forming of flakes. The vaccine is available in 1–5 cm^3 in sealed vials. Each vial contains 100–5000 doses.

Biological properties

One immunizing dose contains 3,5 lg $EID/TCD_{50/cm^3}$ of IB virus and 6,5 lg EID_{50/cm^3} of IB virus.The immunity of vaccinated chickens is forming during 2–3 weeks after the second vaccination and keeps up to 3 months. The vaccine with biological activity no less than 6,0 lg $EID/TCD_{50/cm^3}$ for IB component and 8,5 lg EID_{50/cm^3} for ND component is applicable for use. The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication for use

The vaccine is applied for prevention of chicken infectious bronchitis and Newcastle disease. Clinically healthy birds of all ages are subject to vaccination depending on the epizootic situation of IB and ND. Birds are vaccinated twice at an interval of 10 to 14 days orally, intranasally, intraocularly or via coarse spray.The intensity of postvaccinal immunity is defined in 2–3 weeks after the second accination in HIR or in ELISA with use of diagnostic kits, registered in Russian Federation.

Vaccination is considered to be successful if not less than 80% of the imparted chickens' average antibodies titer to viruses IB and ND in HIR will exceed twice and more the minimum positive indicator stipulated in manual on application of a definite diagnostic. The antibodies titer to ND virus in HIR should be no less than 1:16 (4,0 log_2).

Existence of antibodies below this level in blood serum of birds forms the basis for carrying out a revaccination. Existence of antibodies below this level in blood serum of birds forms the basis for carrying out a revaccination. There are no limits for use of meat and eggs from the vaccinated birds.

Storage conditions

The shelf life of the vaccine is 12 months from the manufacturing date if kept and transported in a dark dry place at a temperature between +2 and +10° C.

AVIVAC-IBD (STRAIN WINTERFIELD 2512)

Vaccine against chicken infectious bursal disease live, dry

Strain Winterfield 2512

General provisions

Vaccine is prepared from virus-containing substrate (extraembryonic liquid, homogenate of carcasses and chorioallantoic membranes of SPF chicken embryos infected with strain of "Winterfield" of high attenuation level. The vaccine represents a brown homogenous dry porous substance that easily dissolves in water without forming of flakes of dreg.

The vaccine is available 100–5000 doses in glass vials.

Biological properties

One immunizing dose of the vaccine contains 3,5 lg EID_{50/cm^3}. The immunity of vaccinated chickens is forming during 14–21 days after vaccination and keeps during all the susceptible period.

The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication for use

Only clinically healthy birds of all ages are subject to vaccination. Chickens of 7–21 day age are vaccinated by a watering method with the interval 10–14 days. The date of the first vaccination is defined by the level of passive (maternal) antibodies in the blood serum of the chickens subject to vaccination.

The intensity of postvaccinal immunity to IBD is defined in 21 days after the vaccination in serological reactions (PH, DPR) or in ELISA with use of diagnostic kits, registered in Russian Federation. Vaccination is considered to be successful if not less than 80% of the imparted chickens' average antibodies titer to will exceed twice and more the minimum positive indicator stipulated in manual on application of a definite diagnosticum. Existence of antibodies titers below this level in blood serum of birds forms the basis for carrying out a revaccination.

Storage conditions

The shelf life of the vaccine is 12 months from the manufacturing date.

The vaccine is stored in a dark dry place at a temperature between +2 and +10 °C.

AVIVAC-IBD (STRAIN BG)

Vaccine against chicken infectious bursal disease live, dry

Strain BG

General provisions

Vaccine is prepared from virus-containing substrate (extraembryonic liquid, homogenate of carcasses and chorioallantoic membranes of SPF chicken embryos infected with strain of BG of high attenuation level.

The vaccine represents a brown homogenous dry porous substance that easily dissolves in water without forming of flakes of dreg.

The vaccine is available 100–5000 doses in glass vials.

Biological properties

One immunizing dose of the vaccine contains 3,5 lg EID_{50/cm^3}. The immunity of vaccinated chickens is forming during 14–21 days after vaccination and keeps during all the susceptible period.

The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication for use

Only clinically healthy birds of all ages are subject to vaccination. Chickens of 7–21 day age are vaccinated by a watering method with the interval 10–14 days. The date of the first vaccination is defined by the level of passive (maternal) antibodies in the blood serum of the chickens subject to vaccination.

The day before the application of a vaccine the volume of the water drunk in 1–1,5 hours period by a party of chickens subject to immunization per 1 head is defined.

At conducting of the vaccination the demanded quantity of doses of the vaccine, corresponding to number of chickens of vaccinated party is diluted in the established volume of water and spilled to the drinking bowl, which was washed without disinfectants.

The intensity of postvaccinal immunity to IBD is defined in 21 days after the vaccination in serological reactions (PH, DPR) or in ELISA with use of diagnostic kits, registered in Russian Federation.

Storage conditions

The shelf life of the vaccine is 12 months from the manufacturing date.

The vaccine is stored in a dark dry place at a temperature between +2 and +10 °C.

AVIVAC-IBD (STRAIN AN)

Vaccine against chicken infectious bursal disease live, dry

Strain AN

General provisions

Avivac-IBD-AN is prepared from virus-containing substates (extraembyonic liquid, carcasses and chorioallantois membranes of SPF chicken embryos) infected with strain AN of bursal disease virus.

The vaccine represents a dry homogenous porous substance of brown and pink color that easily dissolves in water without formation of flakes and dreg.

The vaccine is available 100–5000 doses in glass vials.

Biological properties

One immunizing dose of the vaccine contains 3,0 lg EID_{50/cm^3}.

There are specific antibodies to IBD virus which are formed by a vaccine the chickens are ingrafted with. The immunity of vaccinated chickens is forming during 2–3 weeks after the double vaccination with the interval of 10–14 days and keeps up to 6 months.

The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication for use

Only clinically healthy birds should be subject to vaccination. The vaccine is administered with drinking water to 7 to 15-day-old chickens twice at an interval of 10 to 14 days. Time of vaccination is determined based on the level of passive (i.e. mother's) antibodies (ELISA, PH, DPR etc.).

The intensity of postvaccinal immunity to IBD is defined in 21 days after the vaccination in serological reactions (PH, DPR) or in ELISA with use of diagnostic kits, registered in Russian Federation. Vaccination is considered to be successful if not less than 80% of the imparted chickens' average antibodies titer will exceed twice and more the minimum positive indicator stipulated in manual on application of a definite diagnosticum. Existence of antibodies titers below this level in blood serum of birds forms the basis for carrying out a revaccination.

Storage conditions

The shelf life of the vaccine is 12 months from the manufacturing date.

The vaccine is stored in a dark dry place at a temperature between +2 and +10 °C.

AVIVAC-REO (STRAIN 1133)

Vaccine against avian reovirus infectious live, dry with a diluent

Strain 1133

General provision

The vaccine is prepared from attenuated strain 1133 of birds' reovirus, which is ciltivated on the cells of fibroblast of SPF chicken embryos with addition of a stabilizer. The vaccine represents a homogenous porous substance of yellow- brown or pink color that easily dissolves in water or physiological solution without formation of flakes or dreg. The vaccine is prepacked in hermetically sealed vials by the volume of 1–4 cm^3, 30–3000 doses in a vial. The diluent is packed in glass vials, by the volume of 200, 400 cm^3.

Biological properties

One immunizing dose of the vaccine virus contains no less than 10^4 TCD_{50/cm^3}.The immunity of vaccinated chickens is forming during 3 weeks after the double vaccination and keeps up to 10–12 weeks. For creation of a life-long immunity it is reasonable to carry out the revaccination of a bird at the age of 100–110 days with the inactivated vaccine against reovirus tenosynovitis according to the Instruction on application. The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indications for use

The vaccine is used for prophylactic immunization of birds in farm units threatened or affected by reovirus tenosynovitis. Only clinically healthy birds should be subject to vaccination. Birds should be vaccinated twice, at the age of 7 to 10 days and 35 to 40 days. The vaccine is administered percutaneously. The place of injection should be disinfected with 70% ethanol. The vial with the diluted vaccine should be shaken intermittently. Intensity of the immunity is tested 21 days after vaccination. Blood serum samples from 20 to 25 are tested by ELISA in accordance with standard practice. Vaccination is considered successful if, in 80% or more of the blood serum samples collected from vaccinated birds, the average avian reovirus antibody titre will exceed twice and more the minimum positive indicator stipulated in manual on application of a definite diagnosticum.

Storage conditions

The shelf life of the vaccine is 12 months from the manufacturing date in a dark dry place at a temperature between +2 and +8 °C.
The shelf life of the diluent is 24 months when keeping in a dry dark place at a temperature between +2 and +15 °C.

AVIVAC-ILT (STRAIN VNIIBP)

Vaccine against avian reovirus infectious laryngotracheitis live, dry

Strain VNIIBP

General provision

The vaccine is made from extraembyonic liquid, carcasses and chorioallantois membranes of SPF chicken embryos infected with attenuated strain of birds' infectios laryngotracheitis (strain VNIIBP). The vaccine represents a homogenous porous substance of yellow-brown or pink color that easily dissolves in water or physiological solution without formation of flakes or dreg. The vaccine is available in 3 - 5 cm^3 in hermetically sealed vials, 500-5000 doses.

Biological properties

One immunizing dose of the vaccine contains 10^3 EID_{50/cm^3} of attenuated ILT virus. There are specific antibodies to ILT virus which are formed by a vaccine the chickens are ingrafted with.The immunity of vaccinated chickens is forming during 2–3 weeks after the double vaccination and keeps up to 6–12 months.

The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indications for use

The vaccine is used for prophylactic immunization of birds in farm units threatened or affected by ILT. Only clinically healthy birds should be subject to vaccination. Birds should be vaccinated twice, first time beginning from 25-day-age, second vaccination is held at the intraocular and enteral method after 20–30 days; at the cloacal vaccination – after 30 days. At the aerosol method of vaccination afterwards the bird is revaccinated with the 6 months interval.

The existence of emerging infection diseases in particular proceeding with the respiratory syndrome is a contraindication for carrying out a vaccination against ILT by aerosol method.

Storage conditions

The shelf life of the vaccine is 12 months from the manufacturing date.

The vaccine is stored in a dark dry place at a temperature between +2 and +8 °C.

AVIVAC-POX (STRAIN K)

Vaccine against avian pox dry, cultural

Strain K

General provisions

The vaccine is prepared from virus containing material (culture of skin cells of SPF chicken embryos infected by attenuated strain K of the chicken pox virus). The vaccine represents a homogenous porous substance of yellow-white or pink-white color that easily dissolves in inclosed diluent without formation of flakes or dreg.
The diluent represents itself a 25% dissolvent of glycerin in phosphate buffer solution. It is a transparent colorless liquid.
The vaccine is available in glass vials of 100–3000 immunizing doses. The diluent is available in glass vials at the rate of dilution of 500–3000 doses of vaccine.

Biological properties

One immunizing dose of the vaccine is 1000 ID_{50} of the pox virus. The vaccine causes forming of the immunity to the pox due to the factors of cellular and humoral immunity during 5–7 days after the immunization. Bird that was vaccinated at the age of 2 month of more keep the immunity during all period of growth.

Indications for use

Only clinically healthy birds of 2 month age or more should be subject to vaccination. Birds should be vaccinated once. In the case of necessity of the immunization in earlier terms the vaccination is carried out at the age of 25–30 days and then revaccinated once after 2–3 months. At the outbreak of other emerging infection diseases the vaccination against pox is forbidden.
Before use, the vaccine should be dissolved with diluent. For this purpose the contents of vial with vaccine is dissolved in one vial of diluent in accordance with the table below:
The vaccine is administered intradermally by the injection method to the wing web with 2-needle injector; the volume of the dose is 0.013–0.015 cm^3.
The reaction on a vaccine occurs on 5–8 day after the immunization and is characterized by the formation of pock pits on the inner and outer surface of the wing web of birds in the place of the injection. The pock pits disappear after 28–30 days.

Storage conditions

The shelf life of the vaccine and diluent is 12 months from the manufacturing date on the condition that the vaccine is stored and transported at a temperature between +2 and +10 °C and the diluent at a temperature between +2 and +25 °C.

AVIVAC-MAREK (STRAIN FC-126)

Vaccine against Marek's disease with a diluent

Strain FC-126

General provisions

The vaccine represents the homogeneous dry porous mass of white-yellow color made of culture of cells of fibroblasts of embryos of quails, infected by herpesvirus of turkeys (VGI strain of FS-126), disintegrated by ultrasound and dried up with addition of the stabilizer, which contains solutions of sucrose and a gelatose on the buffer.
The vaccine is delivered together with a diluent AVIVAC-MAREK. The diluent represents a transparent liquid of orange-red color. One dose of a diluent is 0,2 cm^3.
The vaccine is in hermetically sealed vials glass, 500– 2000 doses in each. The diluent is packed in glass vials by the volume of 200, 400 cm^3.

Biological properties of a vaccine

The vaccine causes formation of immunity to a virus of Marek's disease on the 14th day that remains for life. One immunizing dose of a vaccine is 2000 FOE. The vaccine is harmless, areactogenic, does not possess medicinal properties.

Indication for use

Only clinically healthy birds are subject to vaccination. Chickens are vaccinated during the first hours of lives once, directly in a hatchery in specially adapted room. The vaccine is administered intramuscularly with the help of syringes or special automatic injektor in area of the top third internal surface of a hip or hypodermically in the area of the top third of a neck in the volume 0,2 cm^3.
In the presence of the injection equipment like "Ovojek" a preparation is recommended for the 18th days of incubation directly into an embryo.

Storage conditions

Vaccine expiration date is 12 months on condition of storage and transportation in a dry dark place at a temperature from +2 to +8 °C.
Diluent expiration date is 24 months on condition of storage and transportation in a dry dark place at a temperature from +8 to +12 °C.

INACTIVATED VACCINES OF AVIVAC SERIES

INACTIVATED VACCINES

The inactivated mono - and polyvalent vaccines of the AVIVAC series represent the stable homogeneous emulsion consisting of one or mix of the optimally balanced antigens and oil adjuvant. Vaccines are intended for specific prevention of infectious diseases of birds depending on the antigens which are their part. Vaccines possess the following biological properties:

- are high-immunogenic and harmless because they contain cleaned and concentrated virus anti-gens and oil adjuvants of the best global manufacturers;
- can successfully be applied in the poultry farm regardless of an epizootic situation;
- promote formation of protective level of antibodies against every virus antigens entering in the composition of a vaccine for term not less than 12 months.

The inactivated vaccines of AVIVAC series are intended for specific prevention against:

- newcastle disease;
- infectious bronchitis;
- infectious bursal disease;
- reovirus tenosynovitis;
- egg-drop syndrome -76;
- avian metapneumoviral infection;
- adenoviral hepatitis with inclusions — hydropericarditis of birds;
- colibacteriosis;
- pasteurellosis;
- salmonellosis;
- respiratory mycoplasmosis.

The inactivated vaccines of AVIVAC series can be produced in mono-, bi-, tri- and quadrivalent options. The optimum structure of vaccines allows to reach the necessary protective level of humoral antibodies for each of the antigens entering the composition of a vaccine and also provides their circulation in blood within 12 months. The use of the polyvalent inactivated vaccines allows to lower labor costs at their application and prime cost of poultry-farming production.

Monovalent vaccines:
AVIVAC–IB
AVIVAC–ND
AVIVAC–ND–START
AVIVAC–IBD
AVIVAC–EDS–76
AVIVAC–REO
AVIVAC–ADENO
AVIVAC–PNEUMO
AVIVAC–RM
AVIVAC–SALMOVAC
AVIVAC–PASTOVAC
AVIVAC–COLIVAC

Bivalent vaccines:
AVIVAC–IB+ND
AVIVAC–ND+REO
AVIVAC–IB+IBD
AVIVAC–IB+EDS–76
AVIVAC–ND+IBD
AVIVAC–ND+EDS–76
AVIVAC–IBD+EDS–76
AVIVAC–IB+REO
AVIVAC–REO+EDS–76
AVIVAC–IBD+REO
AVIVAC–PNEUMO+ND

Trivalent vaccines:
AVIVAC–IB+ND+IBD
AVIVAC–IB+ND+EDS–76
AVIVAC–IB+IBD+REO
AVIVAC–ND+IBD+REO
AVIVAC–ND+IBD+EDS–76
AVIVAC–IB+IBD+EDS–76
AVIVAC–IB+REO+EDS–76
AVIVAC–ND+REO+EDS–76
AVIVAC–IBD+REO+EDS–76
AVIVAC–IB+ND+REO

Quadrivalent vaccines:
AVIVAC–IB+ND+IBD+EDS–76
AVIVAC–IB+IBD+REO+EDS–76
AVIVAC–IB+ND+REO+EDS–76
AVIVAC–IB+ND+IBD+REO

AVIVAC-ND-START

Vaccine against avian newcastle disease inactivated, emulsive

General provisions

The vaccine is made of an inactivated virus of newcastle disease birds (strain La Sota) in a mix with an oil adjuvant. The vaccine represents a homogeneous emulsion of white color. At storage insignificant stratification of an emulsion in the top part of the vial which uniformity is restored at agitation is allowed. The vaccine is packaged of 4500–5000 vaccine doses in glass or plastic vials of the corresponding capacity.

Biological properties

Vaccine is inducing the immune answer of birds to the newcastle disease 21 day after immunization which remains no less than 3 months.
The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication for use

Chickens at the age from 1 till 10 days are subject to vaccination. The vaccine is administered once into the middle third of a neck in the volume 0,1 cm^3. It is forbidden to vaccinate clinically sick and/or weakened chickens.
A revaccination of chickens against a newcastle disease is carried out with a live vaccine according to earlier fulfilled scheme practicing on farm without term of immunization of chickens with the inactivated vaccine. Before the application a vial with a vaccine is carefully shaken up. For vaccination there are used sterile syringes and needles no longer than 10 mm. 14–21 days after vaccination of birds there is carried out the control of the intensity of the immunity to newcastle disease, by checking no less than 25 tests of blood serums in HIR or ELISA. Vaccination is considered to be successful if no less than in 80% of the blood serum samples the antibody titer to the ND virus is no less than 1:16, at the ELISA test – no less than 2 minimal volumes. At the intensity of immunity less than 80% the birds are revaccinated with the live vaccine against ND.

Storage conditions

Shelf life is 18 months when stored in a dry dark place at temperature from +2 to +8 °C within the expiration date.

AVIVAC-ND

Vaccine against avian newcastle disease inactivated, emulsive

General provisions

The vaccine is made of the extraembryonic liquid of SPF-embryos, infected with the ND virus (st. La Sota), inactivated with formaldehyde in a mix with an oil adjuvant. The vaccine represents a homogeneous emulsion of white color. At storage insignificant stratification of an emulsion in the top part of the vial which uniformity is restored at agitation. The vaccine is packaged on 100, 250, 450 and 500 (200-2500 vaccine doses) in glass or plastic vials of the corresponding capacity.

Biological properties

Vaccine is inducing the immune answer of birds to the newcastle disease 28 days after immunization which remains no less than 12 months.

The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication for use

It is forbidden to vaccinate clinically sick and/or weakened birds. Birds at the age of 90–120 days are subject to vaccination, but not later than 1 month prior to the beginning of the egg-laying. The vaccine is administered once, 0,5 cm^3, hypodermically into a middle third of a neck or intramuscularly in area of a pectoral muscle with observance of rules of an asepsis. Immunization of chickens from daily age is possible hypodermically in an average third of a neck in a dose of 0,2 cm^3.

The revaccination of hens of parental herds more senior than 7 months is allowed according to indications. Before use the vaccine is maintained by 3–4 hours at a temperature from +18 to +20 °C. Before application and during immunization the vials with a vaccine periodically is stirred up for restoration of uniformity of an emulsion.

For vaccination there are used syringes (machine guns, semiautomatic devices) which will are sterilized by boiling within 20 minutes. Use of disposable syringes is allowed.

Storage conditions
Shelf life is 18 months when stored in a dry dark place at temperature from +2 to +8 °C within the expiration date.

Possible variants:

Bivalent:	Trivalent:	Quadrivalent
AVIVAC–ND+IB	AVIVAC–ND+IB+IBD	AVIVAC–ND+IB+IBD+EDS–76
AVIVAC–ND+IBD	AVIVAC–ND+IB+EDS–76	AVIVAC–ND+IB+REO+EDS–76
AVIVAC–ND+REO	AVIVAC–ND+IB+REO	AVIVAC–ND+IB+IBD+REO
AVIVAC–ND+EDS–76	AVIVAC–ND+IBD+REO	
	AVIVAC–ND+IBD+EDS–76	
	AVIVAC–ND+REO+EDS–76	

AVIVAC-IB

Vaccine against infectious bronchitis, inactivated

General provisions

The vaccine is made of the extraembryonic liquid of SPF-embryos, infected with the IB virus (st. Massachusetts serotype), inactivated with formaldehyde in a mix with an oil adjuvant Montanide ISA 70VG.

The vaccine represents a homogeneous emulsion of white color. At storage insignificant stratification of an emulsion in the top part of the vial which uniformity is restored at agitation. The vaccine is packaged on 100, 250, 450 and 500 cm^3 (200-1000 vaccine doses) in glass or plastic vials.

Biological properties

Vaccine is inducing the immune answer of birds to the IB 28 days after immunization which remains no less than 12 months.

The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication for use

It is forbidden to vaccinate clinically sick and/or weakened birds. Birds at the age of 90–120 days are subject to vaccination, but not later than 1 month prior to the beginning of the egg-laying. The vaccine is administered once, 0,5 cm^3, hypodermically into a middle third of a neck or intramuscularly in area of a pectoral muscle with observance of rules of an asepsis.

The revaccination of hens of parental herds more senior than 7 months is allowed according to indications. Before use the vaccine is maintained by 3–4 hours at a temperature from +18 to +20 °C. Before application and during immunization the vials with a vaccine periodically is stirred up for restoration of uniformity of an emulsion.

For vaccination there are used syringes (machine guns, semiautomatic devices) which will are sterilized by boiling within 20 minutes. Use of disposable syringes is allowed.

Storage conditions
Shelf life is 18 months when stored in a dry dark place at temperature from +2 to +8 °C within the expiration date.

Possible variants:

Bivalent:	Trivalent:	Quadrivalent
AVIVAC–IB+ND	AVIVAC–IB+ND+IBD	AVIVAC–IB+ND+IBD+EDS–76
AVIVAC–IB+IBD	AVIVAC–IB+ND+EDS–76	AVIVAC–IB+ND+REO+EDS–76
AVIVAC–IB+REO	AVIVAC–IB+ND+REO	AVIVAC–IB+IBD+REO+EDS–76
AVIVAC–IB+EDS–76	AVIVAC–IB+IBD+REO	AVIVAC–IB+IBD+ND+REO
	AVIVAC–IB+IBD+EDS–76	
	AVIVAC–ND+REO+EDS–76	

AVIVAC-IBD

Vaccine against infectious bursal disease inactivated

General provisions

The vaccine is made of the extraembryonic liquid and homogenate of carcasses of SPF-embryos, infected with the IBD virus (st. BG), inactivated with formaldehyde in a mix with an oil adjuvant Montanide ISA 70VG.

The vaccine represents a homogeneous emulsion of white (light-pink or light-brown) color. At storage insignificant stratification of an emulsion in the top part of the vial which uniformity is restored at agitation. The vaccine is packaged on 100, 250, 450 and 500 (200-2500 vaccine doses) in glass or plastic vials.

Biological properties

Vaccine is inducing the immune answer of birds to the IBD 28 days after immunization which remains no less than 12 months.

The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication for use

It is forbidden to vaccinate clinically sick and/or weakened birds.

Birds at the age of 90–120 days are subject to vaccination, but not later than 1 month prior to the beginning of the egg-laying. The vaccine is administered once, 0,5 cm^3, hypodermically into a middle third of a neck or intramuscularly in area of a pectoral muscle with observance of rules of an asepsis.

The revaccination of hens of parental herds more senior than 7 months is allowed according to indications. Before use the vaccine is maintained by 3–4 hours at a temperature from +18 to +20 °C. Before application and during immunization the vials with a vaccine periodically is stirred up for restoration of uniformity of an emulsion.

For vaccination there are used syringes (machine guns, semiautomatic devices) which will are sterilized by boiling within 20 minutes. Use of disposable syringes is allowed.

Storage conditions
Shelf life is 18 months when stored in a dry dark place at temperature from +2 to +8 °C within the expiration date.

Possible variants:

Bivalent:	Trivalent:	Quadrivalent
AVIVAC–IBD+ND	AVIVAC–IBD+ND+IB	AVIVAC–IBD+ND+IB+EDS-76
AVIVAC–IBD+IBD	AVIVAC–IBD+ND+EDS-76	AVIVAC–IBD+IB+REO+EDS-76
AVIVAC–IBD+REO	AVIVAC–IBD+ND+REO	AVIVAC–IBD+IB+ND+REO
AVIVAC–IBD+EDS–76	AVIVAC–IBD+IB+REO	
	AVIVAC–IBD+IB+EDS-76	
	AVIVAC–IBD+REO+EDS-76	

AVIVAC-PNEUMO

Vaccine against avian methapneumovirus infection

Inactivated, emulsive

General provisions

The vaccine is made of a passage culture of cells Vero infected with avian pneumovirus (strain PV03-B) inactivated by formaldehyde or propiolactone in a mix with an oil adjuvant Montanide ISA 70 VG. The vaccine represents a homogeneous emulsion of white or light-pink color. At storage insignificant stratification of an emulsion in the top part of the bottle which uniformity is restored at agitation is allowed.
The vaccine is packaged on 900–1000 vaccine doses (450 or 500 cm^3) in glass or plastic vials.

Biological properties

Vaccine is inducing the immune answer of birds to a metapneumoviral infection 28 day after a single introduction which remains no less than 6 months.
The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication for use

The vaccine is intended for prevention of a metapneumoviral infection in breeding and commodity poultry farms and for the compelled vaccination in the unsuccessful and threatened farms for the purpose of defeating the infection. It is forbidden to impart clinically sick and/or weakened birds of hens 1 month before the egg-laying period.
Birds at the age of 30–60 days are subject to vaccination, with an obligatory revaccination in 90–120 days, but not later than 1 month prior to the beginning of the egg laying period. The vaccine is administered in the volume of 0,5 cm^3 hypodermically in a middle third of a neck or intramuscularly in area of the chest muscles with observance of rules of an asepsis. Before application the vaccine is kept within 3–4 hours at a temperature from +18 to +20 °C. For vaccination there are used syringes (machine guns, semiautomatic devices), use of disposable syringes is allowed.

Storage conditions

Shelf life is 18 months if stored in a dry dark place, in factory package boxes or in transportation packing at temperature from +4 to +8° C.

AVIVAC-PNEUMO-ND

Vaccine against avian methapneumovirus infection and newcastle disease

inactivated, emulsive

General provisions

The vaccine is made of extraembryonic liquid of SPF-chickens and a passage culture of cells Vero infected with newcastle disease virus and avian pneumovirus (strain PV03-B) inactivated by formaldehyde or propiolactone in a mix with an oil adjuvant Montanide ISA 70 VG. The vaccine represents a homogeneous emulsion of white or light-pink color. At storage insignificant stratification of an emulsion in the top part of the vial which uniformity is restored at agitation is allowed.

The vaccine is packaged on 900–1000 vaccine doses (450 or 500 cm^3) in glass or plastic vials.

Biological properties

Vaccine is inducing the immune answer of birds to a metapneumoviral infection 28 day after a single introduction which remains no less than 6 months.

The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication for use

It is forbidden to impart clinically sick and/or weakened birds of hens 1 month before the egg-laying period.

Birds at the age of 30–60 days are subject to vaccination, with an obligatory revaccination in 90–120 days, but not later than 1 month prior to the beginning of the egg laying period. The vaccine is administered in the volume of 0,5 cm^3 hypodermically in a middle third of a neck or intramuscularly in area of the chest muscles with observance of rules of an asepsis. Before application the vaccine is kept within 3–4 hours at a temperature from +18 to +20 °C. Warming up of a vaccine on a water bath and on heating devices is forbidden. Before application and during immunization a vial with a vaccine is periodically stirred up for restoration of uniformity of an emulsion. For vaccination there are used syringes (machine guns, semiautomatic devices) that are sterilized for 20 minutes before use. The use of disposable syringes is allowed.

Storage conditions

Shelf life is 18 months if stored in a dry dark place, in factory package boxes or in transportation packing at temperature from +4 to +8 °C.

AVIVAC-REO

Vaccine against avian reovirus infection inactivated

General provisions

The vaccine is made of the extraembryonic liquid, homohenate of carcasses and fibroblasy culture of cells of SPF-embryos, infected with the reoviruses (st. 1733 and 2408), inactivated with formaldehyde in a mix with an oil adjuvant Montanide ISA 70VG.
The vaccine represents a homogeneous emulsion of white (light-pink or light-brown) color. At storage insignificant stratification of an emulsion in the top part of the vial which uniformity is restored at agitation. The vaccine is packaged on 100, 250, 450 and 500 cm^3 (200–1000 vaccine doses) in glass or plastic vials.

Biological properties

Vaccine is inducing the immune answer of birds to the agent of reovirusinfection 28 days after immunization which remains no less than 12 months.
The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication for use

It is forbidden to vaccinate clinically sick and/or weakened birds.
Birds at the age of 90–120 days are subject to vaccination, but not later than 1 month prior to the beginning of the egg-laying. The vaccine is administered once, 0,5 cm^3, hypodermically into a middle third of a neck or intramuscularly in area of a pectoral muscle with observance of rules of an asepsis.
The revaccination of hens of parental herds more senior than 7 months is allowed according to indications. Before use the vaccine is maintained by 3–4 hours at a temperature from +18 to +20 °C. Before application and during immunization the vials with a vaccine periodically is stirred up for restoration of uniformity of an emulsion.
For vaccination there are used syringes (machine guns, semiautomatic devices) which should be sterilized by boiling within 20 minutes. Use of disposable syringes is allowed.

Storage conditions
Shelf life is 18 months when stored in a dry dark place at temperature from +2 to +8 °C within the expiration date.

Possible variants:

Bivalent:	Trivalent:	Quadrivalent
AVIVAC–REO+IB	AVIVAC–REO+IBD+IB	AVIVAC–REO+IBD+IB+EDS–76
AVIVAC–REO+ND	AVIVAC–REO+IB+EDS–76	AVIVAC–REO+IBD+IB+ND
AVIVAC–REO+IBD	AVIVAC–REO+IB+ND	AVIVAC–IB+IBD+REO+EDS–76
AVIVAC–REO+EDS–76	AVIVAC–REO+ND+IBD	AVIVAC–REO+ND+IB+EDS–76
	AVIVAC–IB+IBD+EDS–76	
	AVIVAC–REO+IBD+EDS–76	

AVIVAC-EDS-76

Vaccine against egg-drop syndrome inactivated

General provisions

The vaccine is made of the extraembryonic liquid of ducks infected with the virus of egg-drop syndrome -76 (st. B8/78) inactivated with formaldehyde in a mix with an oil adjuvant Montanide ISA 70VG.

The vaccine represents a homogeneous emulsion of white color. At storage insignificant stratification of an emulsion in the top part of the vial which uniformity is restored at agitation. The vaccine is packaged on 100, 250, 450 and 500 cm^3 (200-1000 vaccine doses) in glass or plastic vials.

Biological properties

Vaccine is inducing the immune answer of birds to the agent of EDS-76 28 days after immunization which remains no less than 12 months.

The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication for use

It is forbidden to vaccinate clinically sick and/or weakened birds.

Birds at the age of 90–120 days are subject to vaccination, but not later than 1 month prior to the beginning of the egg-laying. The vaccine is administered once, 0,5 cm^3, hypodermically

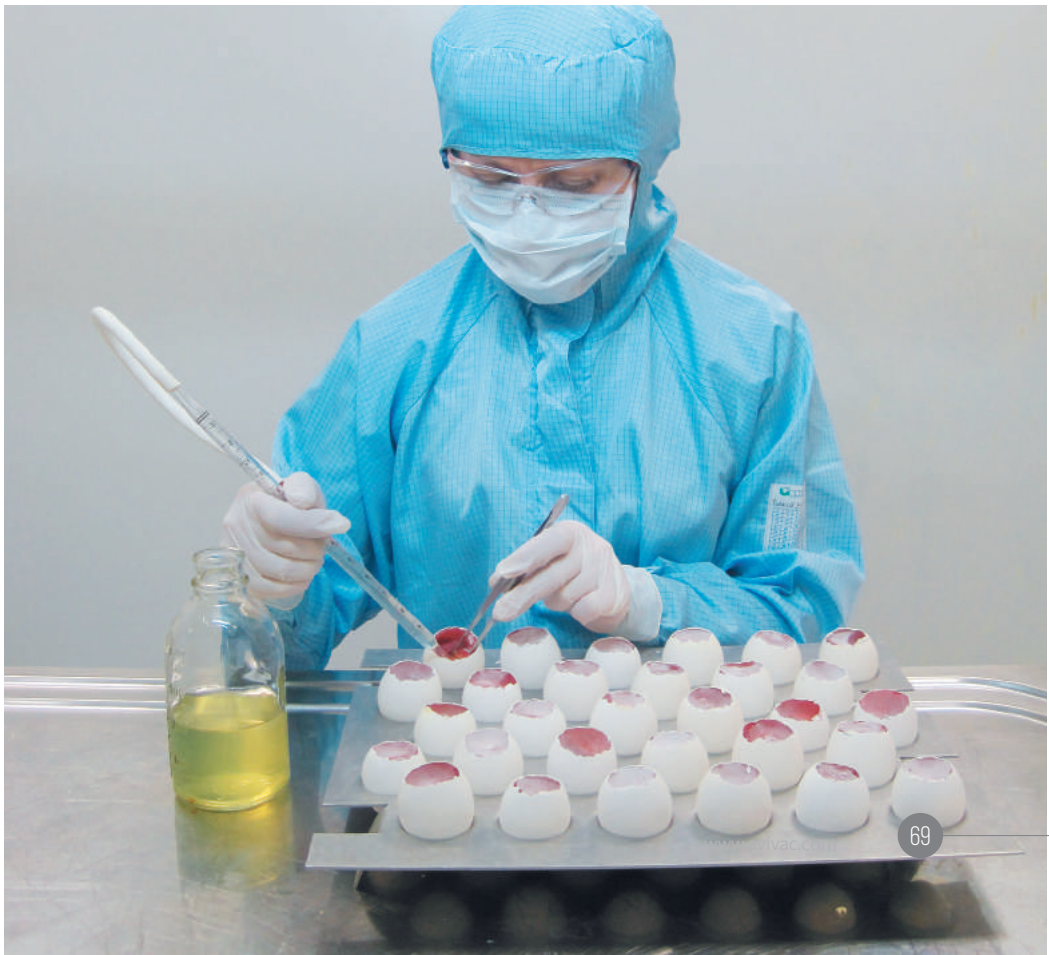
into a middle third of a neck or intramuscularly in area of a pectoral muscle with observance of rules of an asepsis.

The revaccination of hens of parental herds more senior than 7 months is allowed according to indications. Before use the vaccine is maintained by 3–4 hours at a temperature from +18 to +20 °C. Before application and during immunization the vials with a vaccine periodically is stirred up for restoration of uniformity of an emulsion. For vaccination there are used syringes (machine guns, semiautomatic devices) which should be sterilized by boiling within 20 minutes. Use of disposable syringes is allowed.

Storage conditions
Shelf life is 18 months when stored in a dry dark place at temperature from +2 to +8 °C within the expiration date.

Possible variants:

Bivalent:	Trivalent:	Quadrivalent
AVIVAC–EDS–76+IB	AVIVAC–EDS–76+ND+IB	AVIVAC–EDS–76+IBD+IB+REO
AVIVAC–EDS–76+ND	AVIVAC–EDS–76+IB+REO	AVIVAC–EDS–76+IBD+IB+ND
AVIVAC–EDS–76+IBD	AVIVAC–EDS–76+IB+IBD	AVIVAC–EDS–76+ND+IB+REO
AVIVAC–EDS–76+REO	AVIVAC–EDS–76+ND+IBD	
	AVIVAC–EDS–76+ND+REO	
	AVIVAC–EDS–76+IBD+REO	



AVIVAC-ADENO

Vaccine against adenoviral hepatitis with inclusions-hydropericarditis inactivated

General provisions

The vaccine is made of theliver homohenate of chickens infected with the virulent strain ADV of the virus of infectious hepatitis-hydropericarditis of birds inactivated with formaldehyde in a mix with an oil adjuvant Montanide ISA 70VG.

The vaccine represents a homogeneous emulsion of white and beige-white color. At storage insignificant stratification of an emulsion in the top part of the vial which uniformity is restored at agitation. The vaccine is packaged on 40–1000 (0,5 cm^3) commercial doses in glass or plastic vials of the corresponding capacity.

Biological properties

Vaccine is inducing the immune answer to adenoviral hepatitis with inclusions- hydropericarditis of hens 28 days after immunization which remains no less than 12 months. The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication for use

It is forbidden to vaccinate clinically sick and/or weakened birds. Birds of industrial herds at the age of 10–15 days are subject to vaccination, in need of more young or advanced age but not later than 14 days before alleged clinical manifestation of the disease.

Growing birds of parental herds are immunized twice: the first time at the age of 10–15 days and the second time at the age of 90–110 days. Before application the vaccine is kept within 3 hours at a temperature from +18 to +20 °C, contents are mixed by vigorous stirring. The vaccine is administered hypodermically into area of the lower third of a neck to birds of 10-15-day age of 0,3 cm3, to birds of 110-120-day age — of 0,5 cm^3.

Intensity of postvaccinal immunity is defined in 28 days after vaccination in RDP, investigating 20 tests of serum of blood from party of chickens to and through 28 days after immunization. Thus specific antibodies to a virus of the adenoviral hepatitis with inclusions should be observed at 80 % of chickens under study.

Storage conditions

Shelf life is 18 months if stored in a dry dark place, in factory package boxes or in transportation packing at temperature from +4 to +8 °C.

AVIVAC-RM

Vaccine against respiratory mycoplasmosis of birds inactivated

General provisions

The vaccine is intended for specific prevention of birds against respiratory mycoplasmosis of birds.
The vaccine is made of strain S6 M. gallisepticum grown on artificial nutrition media.
The vaccine represents a homogeneous emulsion of white or cream color.
The vaccine is packaged in vials by volume 20–500 cm^3 (40–1000 doses) in vial.

Biological properties

Vaccine is inducing the postvaccinal immunity of birds to respiratory mycoplasmosis 21–28 days after immunization which remains during 6 months.
The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication on use

Clinically healthy bird of egg and meat breeds, sensitive to mycoplasmosis are subject to vaccination, at the age of 5–7 weeks with the subsequent revaccination in 5–7 weeks age 3–4 weeks before the laying period.
Poultry meat is used without restriction 28 days after vaccination. Carcasses of birds killed before this term are subject to thorough veterinary and sanitary examination.
At detection of the remains of not resolved vaccine or signs of an inflammation on a place of administering of the vaccine, carcasses are culled.

Storage conditions

The vaccine is stored in a dry dark room, in boxes of an original packing or transport container at temperature from +4 to +8 °C.

AVIVAC-COLIVAC
EMULSION

vaccine against colibacteriosis of birds
emulsive

General provisions
The vaccine is made on the basis of adhesive antigens of toxigenic strains of E. coli mixed with oil adjuvant. The vaccine represents a homogeneous water-oil emulsion of white or white-pink color. The vaccine is packaged in hermetically sealed vials by volume 20–500 cm^3 (40-1000 doses).

Biological properties
Vaccine is inducing the immunity of birds to colibacteriosis agent 21–28 days after immunization which remains during 6 months.
The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication on use
The vaccine is intended for prevention of a colibacteriosis of birds in the unsuccessful farms. It is forbidden to impart clinically sick and/or weakened chickens.
The birds are vaccinated from 30-day age, revaccination of birds is carried out from the age of 90–110 days, but no later than 3–4 weeks prior to the beginning of egg-laying.
The vaccine is administered hypodermically into area of the lower third of a neck in a dose of 0,5 cm^3 per head.
The place of an injection is processed with disinfecting solution, needles and syringes are sterilized by boiling in the distilled water within 15 minutes. Before application vials with a vaccine is kept 3–4 hours at a temperature of +20-22 °C. During the vaccination a vial with a vaccine periodically need to be stirred up.
The vaccine is compatible to antibiotics, sulfanilamides, vitamins and pro-biotic preparations at their oral consumption. For prevention of birds from diseases in the center of infections during development of immunity it is necessary to use the combined application of a vaccine with antibiotics according to the established sensitivity, in the recommended doses and schemes.

Storage conditions
The vaccine is stored 18 months in a dry dark room, in boxes of an original packing or transport container at temperature from +4 to +8 °C.

AVIVAC-COLIVAC
SUSPENSION

vaccine against colibacteriosis of birds suspension

General provisions

The vaccine is made on the basis of adhesive antigens of toxigenic strains of E. coli with the addition of the hydroxide aluminium adjuvant. The vaccine represents a light-grey suspension with eth white dreg forming on the bottom of the vial at storage and easily disappearing when the vial is stirred up.

The vaccine is packaged in hermetically sealed vials by volume 20- 500 cm^3 (20-500 doses).

Biological properties

Vaccine is inducing the immunity of birds to colibacteriosis agent 14–28 days after immunization which remains during 6 months.

The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication on use

The vaccine is intended for prevention of a colibacteriosis of birds in the unsuccessful farms. It is forbidden to impart clinically sick and/or weakened chickens. The vaccine is administered into a radial bone and ulnar bone.

Doses for intramuscular administration:

Kind of bird	Age	Dose (cm^3)
Growing birds of egg and meat breeds	30-60, 61 and more senior	0,5 1,0
Turkeys, ducks, geese	30-60, 61 and more senior	1,0 2,0

Before application vials with a vaccine is kept 3–4 hours at a temperature of +20-22 °C. During the vaccination a vial with a vaccine periodically need to be stirred up.

The vaccine is compatible to antibiotics, sulfanilamides, vitamins and pro-biotic preparations at their oral consumption. For prevention of birds from diseases in the center of

infections during development of immunity it is necessary to use the combined application of a vaccine with antibiotics according to the established sensitivity, in the recommended doses and schemes. Slaughter of birds on meat is allowed in 28 days after introduction of a vaccine. Egg in used without restriction irrespective of vaccination terms.

Storage conditions

The vaccine is stored 18 months in a dry dark room, in boxes of an original packing or transport container at temperature from +4 to +8 °C.

AVIVAC-SALMOVAC
EMULSION

vaccine against salmonellosis of birds inactivated, emulsion

General provisions

The vaccine is made on the basis of membrane antigens of the virulent strains S. enteridis C-5-AT, infantis and S. typhimurium with the addition of the oil adjuvant. The vaccine represents a homogeneous water-oil emulsion of white or white-pink color. The vaccine is packaged in hermetically sealed vials by volume 20-500 cm^3 (40-1000 doses).

Biological properties

Vaccine is inducing the immunity of hens to salmonellosis agent 14–28 days after immunization which remains during 6 months. Vaccine provides the protection of the posterity from salmonellosis caused by S. enteridis C-5-AT, infantis and S. typhimurium during the first 14 days of life chickens by means of transovarial transmition of the maternal antibodies.

The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication on use

It is forbidden to impart clinically sick and/or weakened chickens.

Replacement chicks are vaccinated against salmonellosis for the purpose of protection of the chickens received from the vaccinated birds due to transovarial immunity. Birds are vaccinated twice at the age of 50–60 days after receiving negative the serological results on salmonellosis and in 90-110 days, but not later than 3–4 weeks prior to the beginning of the egg laying.

The vaccine is entered hypodermically into area of the lower third of a neck in a dose of 0,5 cm^3 on the head. Before use the vial with the vaccine should be kept at the temperature of +20-22 °C. During vaccination the vial with a vaccine needs to be stirred up periodically. The vaccine is compatible to antibiotics, sulfanilamides, vitamins and pro-biotic preparations at their oral introduction. For protection of birds from a disease in the center of infections during development of immunity it is necessary to use the combined application of a vaccine with antibiotics according to the established sensitivity, in the recommended doses and schemes.

Storage conditions

The vaccine is stored 18 months in a dry dark room, in boxes of an original packing or transport container at temperature from +4 to +8 °C.

AVIVAC-PASTOVAC
EMULSION

vaccine against pasteurellosis of birds emulsive

General provisions

The vaccine is made on the basis of membrane adhesive antigens of the virulent strain of P. multocida with the oil adjuvant. The vaccine represents a homogeneous water-oil emulsion of white or white-pink color. The vaccine is packaged in hermetically sealed vials by volume 20–500 cm^3 (40–1000 doses).

Biological properties

Vaccine is inducing the immunity of hens to pasteurellosis agent 14–28 days after double immunization which remains during 6 months.
The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication on use

It is forbidden to vaccinate clinically sick and/or weakened chickens.
The birds are vaccinated from 30-day age, revaccination of birds is carried out from the age of 90–110 days, but no later than 3–4 weeks prior to the beginning of egg-laying.
The vaccine is administered hypodermically into area of the lower third of a neck in a dose of 0,5 cm^3 per head. The place of an injection is processed with disinfecting solution, needles and syringes are sterilized by boiling in the distilled water within 15 minutes. Before application vials with a vaccine is kept 3–4 hours at a temperature of +20-22 °C. During the vaccination a vial with a vaccine periodically need to be stirred up.
The vaccine is compatible to antibiotics, sulfanilamides, vitamins and pro-biotic preparations at their oral consumption. For prevention of birds from diseases in the center of infections during development of immunity it is necessary to use the combined application of a vaccine with antibiotics according to the established sensitivity, in the recommended doses and schemes.

Storage conditions

The vaccine is stored 18 months in a dry dark room, in boxes of an original packing or transport container at temperature from +4 to +8 °C.

AVIVAC-PASTOVAC
SUSPENSION

vaccine against pasteurellosis of birds
suspension

General provisions

The vaccine is made on the basis of membrane adhesive antigens of the virulent strain of P. multocida with the hydroxide aluminum adjuvant. The vaccine represents a light-grey suspension with the white dreg easily transforming at stirring to a homogenic substance. The vaccine is packaged in hermetically sealed vials by volume 20–500 cm^3 (20-500 doses).

Biological properties

Vaccine is inducing the immunity of hens to pasteurellosis agent 14–28 days after double immunization which remains during 6 months.
The vaccine is innoxious, areactogenic, possesses no therapeutic properties.

Indication on use

It is forbidden to vaccinate clinically sick and/or weakened chickens.
The vaccine is administered into a radial bone and ulnar bone.

Doses for intramuscular administration:

Kind of bird	Age	Dose (cm^3)
Growing birds of egg and meat breeds	30-60, 61 and more senior	0,5 1,0
Turkeys, ducks, geese	30-60, 61 and more senior	1,0 2,0

Before application vials with a vaccine is kept 3–4 hours at a temperature of +20-22 °C. During the vaccination a vial with a vaccine periodically need to be stirred up.

The vaccine is compatible to antibiotics, sulfanilamides, vitamins and pro-biotic preparations at their oral consumption. For prevention of birds from diseases in the center of infections during development of immunity it is necessary to use the combined application of a vaccine with antibiotics according to the established sensitivity, in the recommended doses and schemes.

Storage conditions

The vaccine is stored 18 months in a dry dark room, in boxes of an original packing or transport container at temperature from +4 to +8 °C.

DIAGNOSTIC TEST KITS
AVIVAC

DIAGNOSTIC TEST KITS
AVIVAC-ELISA

SPE AVIVAC produces and realizes for veterinary practice test systems on the basis of various versions of the ELISA analysis, intended for laboratory diagnostics of the most widespread and dangerous infectious diseases of birds.

Sets for diagnosis of infectious diseases of birds by ELISA method are intended for identification of specific antibodies to the corresponding antigens (ND, IEM, IB, IBD, REO, AI, causative agents of mycoplasmosis of birds (Mycoplasma gallisepticum and Mycoplasma synoviae) or for identification of an antigens (a virus of a leucosis of birds).

List of diagnostic test kits AVIVAC-ELISA series:
AVIVAC–ELISA–ND (newcastle disease)
AVIVAC–ELISA–IB (infectious bronchitis)
AVIVAC–ELISA–IBD (infectious bursal disease)
AVIVAC–ELISA–REO (reovirus infection)
AVIVAC–ELISA–EP (encephalomyelitis of birds)
AVIVAC–ELISA–AI (avian influenza)
AVIVAC–ELISA–ALV (virus of avian leucosis)
AVIVAC–ELISA–RM (respiratory mycoplasmosis)
AVIVAC–ELISA–MS (the infectious sinovitis)

CHARACTERISTIC OF TEST KITS

High specificity and sensitivity are caused by the use of affine cleaned specific antibodies and antigens, application of the alkaline phosphatase as an enzymatic mark and r-nitrophenylphosphate as the main component of a substrate mix.

Reliability and reproducibility of results are caused by the use of the standardized immunological and chemical reagents, micro panels and solutions. For increase of reliability and reproducibility of results in all test kits, besides positive and negative control, it is used the standard — the preparation certified at the international level containing strictly certain quantity of specific antibodies or antigens.

Simplicity of statement and speed of carrying out analysis. Complete set of kits it is carried out by micro panels, conjugate solutions, ready to application and substratum. Incubation time between stages is 30 minutes, the general time for reaction — 2–2,5 hours taking into account all necessary procedures.

Obtaining reliable quantitative data in the analysis of a single cultivation of serum with use of the standard as calibration test and possibility of their automated processing.

COMPLETE SET

Immunospecific and chemical components are a part of each set:

- Polystyrene 96-well micro panels with adsorbed inactivated antigens in wells — 2 micro panels on each antigen. Each micro panel contains 12 removable 8-well of strips and has the corresponding color fringing.
- The standard — serum of blood of hens with the raised maintenance of specific antibodies to the corresponding antigen — 0,1 cm^3 — 1 test tube.
- Positive control — the serum of blood of hens containing specific antibodies to the corresponding antigen — 0,1 cm^3 — 1 test tube.
- Negative control — the serum of blood of hens which isn't containing specific antibodies — 0,1 cm^3 — 1 test tube.
- Antispecies conjugate — antibodies to IgG of hens, marked by AP — 22,0 cm^3 — 1 vial assays — concentrated 4-fold solution TRIS-EDTA of the buffer with the addition of the food color — 20,0 cm^3 — 3 vials.
- The buffer — the concentrated 20-fold solution of the TRIS-buffer — 25,0 cm^3 — 2 vials.
- A substratum — solution r-nitrofenilphosphate — 22,0 cm^3 — 1 vials.

- Stop solution — 3,0 M NaOH solution — 22,0 cm^3 — 1 vials.
- Instruction on application.

APPLICATION ORDER

ELISA test kits are applied according to “The instruction on application of a test kits” for each disease. It is forbidden to mix components of sets of different series.

STORAGE CONDITIONS

Expiration date of components of a test kit — 12 months of date of production on condition of storage and transportation in the place protected from light at a temperature from +2 to +8 °C. Freezing of components is not allowed.

SOFTWARE

The software of ELISA-AVIVAC (version 1.0) is developed for automatic processing, the account and interpretation of results of ELISA received when carrying out diagnostic tests. The software of ELISA-AVIVAC allows:

- to carry out data input (optical density) from the spectrophotometer (reader) and from the computer keyboard;
- to carry out automatic processing of results of measurements in compliance with the algorithm containing in manual on application of each ELISA test kit;
- to form databases both primary (optical density), and processed (results of researches), with possibility of search in databases in the most various parameters (the researcher, the name of the ELISA test kit, the name of a disease or the activator, the description of the analyzed test, date analysis etc.);
- to submit the fast message on the conducted research (with possibility of printing) including data on the researcher, the ELISA test kit, the name of a disease or the activator, the description of the analyzed tests, date of the analysis, and also value of optical density for each control sample and the analyzed test, EU value (the international ELISA-units characterizing the relative maintenance of antibodies/antigen) for each analyzed test and interpretation of result.

The software of AVIVAC-ELISA is compatible to various models of spectrophotometers (readers) both domestic (Uniplan), and import productions (SLT Spectra, Anthos, Tecan, etc.).

DIAGNOSTIC TEST KITS
AVIVAC-HAI

SPE AVIVAC produces and cells for veterinary practice kits for diagnostics of newcastle disease (ND) and egg-drop syndrome (EDS-76) in reaction of hemagglutination inhibition:
AVIVAC–HAI–ND
AVIVAC–HAI–EDS–76

INDICATION FOR USE

Test kits are made for retrospective diagnostics of ND or EDS-76 by the level of humoral antibodies and for the estimation of the effectiveness of hens' immunization against these disease and serological control of the dissemination of the ND and EDS-76 agents in industrial poultry population.

COMPLETE SET

The following things enter the composition:

- Inactivated antigen of the ND virus or EDS-76 virus - 3 vials;
- Positive control -hyperimmune blood serum of hens - 1 vial;
- Negative control - blood serum of hens having no specific antibodies to ND virus or EDS-76 virus -1 vial;
- Instruction on completing.

INSTRUCTION FOR USE

HAI test kits are used in accordance with the strict accordance with the "Instruction for use" of this test kit.

STORAGE CONDITIONS

Expiration date of components of a test kit — 12 months of date of production on condition of storage and transportation in the place protected from light at a temperature from +2 to +8 °C. Freezing of components is not allowed.

DIAGNOSTIC TEST KITS
AVIVAC-RA

SPE AVIVAC produces and cells for veterinary practice kits for diagnostics of respiratory mycoplasmosis (RM) and infectious synovitis (MC) in reaction of agglutination (RA):
AVIVAC-RA-RM
AVIVAC-RA-MC

INDICATION FOR USE

Test kits are made for retrospective diagnostics of antibodies in blood serums of hens to RM and MC agents and for the estimation of the effectiveness of hens' immunization against these disease and serological control of the dissemination of the RM and MS agents in industrial poultry population.

COMPLETE SET

The following things enter the composition:

- Inactivated antigen M.gallisepticum or M. synoviae - 3 vials;
- Positive control - hyperimmune blood serum of hens to M.gallisepticum or M. synoviae -1 vial;
- Negative control - blood serum of hens having no specific antibodies to M.gallisepticum or M. synoviae 1 vial;
- Instruction on completing.

INSTRUCTION FOR USE

HAI test kits are used in accordance with the strict accordance with the "Instruction for use" of this test kit.

STORAGE CONDITIONS

Expiration date of components of a test kit — 12 months of date of production on condition of storage and transportation in the place protected from light at a temperature from +2 to +8 °C. Freezing of components is not allowed.

DIAGNOSTIC CENTER

The structure of AVIVAC Ltd. includes the Diagnostic Center which main activity is diagnostics of infectious diseases of birds and development of effective actions for prevention and fight against them. The center carries out diagnostic researches on such to the most dangerous and widespread diseases of birds.

The center is completed by highly skilled experts and equipped with the temporary equipment. In work of the Center highly sensitive and specific test systems on the basis of immunofermental, immunochromatografic, molecular and biological, and also traditional methods of research are used. All this allows to carry out diagnostic and differential and diagnostic researches giving with a fine precision and to the shortest terms. Specialists of the center conduct epizootic survey of poultry farms, provide scientific and practical help in setting of the diagnosis on infectious and a noncontagious etiology with the development of recommendations about decrease in a damage caused by them, develop optimum schemes of application of means of specific prevention and chemotherapeutic preparations.

At statement of the diagnosis and development of antiepizootic actions in every case breeding features of a bird are taken into account, as well as technology of keeping and feeding, impact on a bird of stressful and immunosuppressive factors, efficiency of programs of vaccinal prevention of infectious diseases of birds on farms of various regions of the country and the world are considered.

In the diagnostic center SPE AVIVAC it is possible to receive the advisory help in an assessment of results of diagnostic researches on infectious diseases of the birds executed at any level, to pass training concerning infectious pathology of birds.

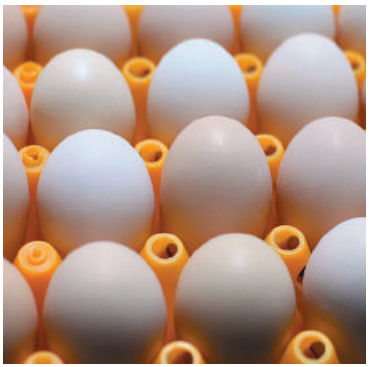
VETERINARY SUPPORT SERVICE

SPE AVIVAC puts special attention to veterinary support of the products manufactured. Veterinary service includes a comprehensive approach to diagnostics of infectious diseases taking into account the results of serological monitoring for evaluation of the epizootic situation of poultry farms, the analysis of schemes of veterinary processing of a bird taking in account of technological parameters of growing and keeping of birds and laboratory diagnostics with carrying out serological, virologic, histologic and microbiological researches.

The enterprise has the qualified experts, among them there are professors, doctors and candidates of science, whose experience and high professionalism allow making high-quality biological products and giving scientific consulting.

Specialists of SPE AVIVAC regularly visit poultry farms, where they carry out a complex epizootic monitoring which includes: clinical survey of a livestock, pathoanatomic examination of the fallen bird, material selection for laboratory researches, the analysis of fodder diets, and also carry out the evaluation of conditions of keeping and feeding of birds depending on technological direction of the farm.

Based on the results of laboratory researches in the Diagnostic Center of the SPE AVIVAC the evaluation of the program of vaccination existing on a farm is carried out and its adjustment is made if necessary. By results of a complex inspection of an economy by experts, necessary recommendations about improvement of an epizootic situation and, as a result of it, increase the economic effectiveness of the enterprise.



GENERALIZED CHART OF VACCINATION OF PARENTAL HERDS WITH THE MAXIMAL COVERAGE OF DISEASES*

Age (days)	Name of disease	Type of vaccine	Methods of use
1	Marek's disease	Live	Subdermally
1	Infectious bronchitis	Live	Spray
5	Coccidiosis	Live	Drinking
7	Reovirus tenosynovitis	Live	Subdermally
10	Infectious bronchitis	Live	Drinking, intranasal,ocular
12	Infectious bursal disease	Live	Drinking
14	Newcastle disease	Live	Drinking
19	Infectious bursal disease	Live	Drinking
25	Infectious bronchitis	Live	Drinking
30	Infectious laryngotracheitis	Live	Ocular
40	Avian methapneumovirus infection	Inactivated (subtype B)	Subdermally
45	Reovirus tenosynovitis, Newcastle disease	Inactivated	Subdermally, intramuscularly
45	Infection anemia of chickens	Live	Subdermally, intramuscularly
50	Infectious bronchitis	Live	Intranasal, ocular
50	Respiratory mycoplasmosis	Inactivated	Intramuscularly
60	Infectious laryngotracheitis	Live	Ocular
60	Infectious encephalomyelitis, pox	Live	Wing centesis
70	Salmonellosis	Inactivated	Subdermally
75	Infectious bronchitis	Live	Intranasal, ocular
75	Reovirus tenosynovitis	Inactivated	Subdermally, intramuscularly
80	Respiratory mycoplasmosis	Inactivated	Intramuscularly
85	Newcastle disease	Live	Drinking
90	Salmonellosis	Inactivated	Subdermally
100	Newcastle disease, egg-drop syndrome	Inactivated	Subdermally
100	Avian methapneumovirus infection	Inactivated (subtype B)	Subdermally
120	MPVI, IB, IBD, ND	Inactivated	Subdermally, intramuscularly
210-240	Infectious bronchitis, Newcastle disease	Inactivated	Subdermally, intramuscularly

* List of disease depends on the epizootic situation in a certain poultry farm

NOTES

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AVIVAC Publishing House

3RD SYROMYATNICHESKIY PEREULOK,
HOUSE 3/9, BUILDING 4,
MOSCOW 105120
TEL./FAX: +7 (495) 7851801

SPE AVIVAC
WORLD
QUALITY
STANDARDS

GORBUNKI VILLAGE, LOMONOSOVSKY DISTRICT,
LENINGRAD REGION, 188502,
TEL./FAX: +7 (812) 677 38 80 (81)
WWW.AVIVAC.COM