

OIE Collaborating Centres Reports Activities

Activities in 2018

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ToR: To provide services to the OIE, in particular within the region, in the designated specialty, in support of the implementation of OIE policies and, where required, seek for collaboration with OIE Reference Laboratories

ToR: To identify and maintain existing expertise, in particular within its region

1. Activities as a centre of research, expertise, standardisation and dissemination of techniques within the remit of the mandate given by the OIE

Disease control	
Title of activity	Scope
State epizootiological monitoring	A total of 6696 samples were investigated in the framework of State epizootiological monitoring in accordance with the order of Federal Service for Veterinary and Phytosanitary Surveillance. 3447 bovine sera, 1866 ovine sera were investigated for monitoring of brucellosis. The significant part of the samples (93,1 %) were negative, 276 samples were equivocal and 86 samples were positive. A total of 1000 bovine sera were analyzed for monitoring of leptospirosis (65,5 % of positive analyses). A total of 383 samples of pathological materials were subjected to bacteriological researches for identification of Salmonella spp. There were 11 positive samples in pathological material.
Diagnosis, biotechnology and laboratory	
Title of activity	Scope
Diagnosis and surveillance of infectious diseases of animals and birds.	Last year our Center carried out 6940 different types of research in different animal diseases by using PCR. 31% of total samples were tested for the Schmallenberg disease, 4,8% samples were leucosis and 8,9% samples were Aleutian Disease, 2,2% samples were Lawsoniosis, 1,5% samples were infectious rhinotracheitis. The significant amount of positive samples were leucosis (4,8%), mycoplasmosis (0,4%%).
Research	<ol style="list-style-type: none"> 1. Guidelines for the identification and differentiation of Mycoplasma bovis and Mycoplasma californicum by Real-time PCR. 2. Method for the indication of the Mycoplasma bovis genome based on the polymerase chain reaction with hybridization-fluorescence detection of amplification products. 3. Ureaplasma diversum genome indication technique based on polymerase chain reaction with hybridization-fluorescence detection of amplification products. 4. Method for identification of virulence factors genes and genes of antibiotic resistance of escherichia coli by the method of polymerase chain reaction. 5. Identification of mutations associated with the most common hereditary diseases in Simmental cattle by molecular genetic methods.

Food safety	
Title of activity	Scope
National Monitoring Program of Food and Feed Safety and Quality	<p>In 2018 VGNKI performed more than 10000 analyses in more than 5000 of samples within the National Monitoring Program of Food and Feed Safety and Quality. Around 5% of analyses were positive. Adulteration of milk products with non-milk fat was the most common type of non-compliance. Exceeding of National maximum levels was found for heavy metals, dioxins, tetracyclines, nitrofurans, nitroimidazoles, macrolides, sulfonamides and some other drugs and chemical contaminants. As usual, almost all classes of antimicrobials used in animal husbandry were included in the program.</p> <p>Tetracyclines were found in broad range of products including beef, poultry, swine, milk and milk products, eggs and honey. Nitrofurans were found in poultry, swine, honey, eggs and fish, nitroimidazoles – in swine, honey and milk products, macrolides – in milk products, quinolones - in poultry, sulfonamides - in milk, milk products, eggs and honey, heavy metals - in feeds, fish and seafood. A proportion of samples of aquaculture fish was contaminated by triarylmethane dyes. Most part of uncompliant samples was of domestic origin.</p>
NATIONAL MONITORING OF MICROBIOLOGICAL CONTAMINATION OF FOOD AND FEED PRODUCTS	<p>In 2018 VGNKI carried out 2270 analyses of microbiological contamination of various animal husbandry products (meats, ready-to-eat meat products, milk and milk products, fish and animal feed). The following groups of microorganisms were analyzed: (5,2% of positive analyses, i.e. analyses with bacterial count exceeding Customs Union limits), total mesophilic aerobic and facultative anaerobic microorganisms count (1,8% of positive analyses), coliforms (2%) <i>Listeria monocytogenes</i> (1%), <i>Salmonella</i> spp. (0,1%), <i>Staphylococcus aureus</i> (0%).</p>
Research	Method of the fish species identification using next generation sequencing technologies.
Contamination of animal tissues	In the framework of contract work a total amount of 201 food samples were analyzed for the presence of ruminant DNA, furry animal DNA, chicken and pork DNA, horse DNA, 50 samples were positive and did not correspond to the declared composition.
Feed safety	
Title of activity	Scope
Monitoring of genetically modified organisms in the feed	<p>One of the important parts of work of the Center is the monitoring the presence of unintended and undesirable substances in feeds and agricultural products and validation of the declared content of individual raw-materials used in the formulation. Feeds are analyzed to exclude adulteration with contamination of animal tissues, soybean or maize ingredients, and genetically modified organisms. The Center carries out analyses of different products for feeding animals including feed materials, compound feeds and feed additives. The special focus is on analyzing raw materials for feed materials (soybean meal) to ensure food security.</p> <p>Last year our Center tested 1351 samples for identification of genetically modified organisms from 13 different countries, 88,6% samples were domestically produced. As a result, undeclared lines of GMO were found in 406 samples (30,05%) and unauthorized in the Russian Federation lines of GM-soya/GM-maize in 6 imported samples.</p>

Monitoring of contamination of animal tissues	In 2018 in the framework of State monitoring a total of 19 samples of fish meal were analyzed for the presence of ruminant DNA, it was detected in 1 sample. A total of 19 samples were analyzed for the presence of furry animal DNA, which wasn't detected.
Research	Detection of GMOs by testing of sets of genetic elements depending on the types of agricultural plants. Identification and content determination of the potato event EH92-527-1 using real time PCR.
Other (Name the category)	
Title of activity	Scope
The National program of AMR monitoring	<p>VGNKI has several key activities related to the problem of antimicrobial resistance, involving different sides of institution capabilities.</p> <p>1. VGNKI is currently doing a research project on AMR in zoonotic bacteria. Bacteria (E.coli, Salmonella spp., Campylobacter spp. and Enterococcus) and number of isolates to be tested (369) were chosen according to OIE recommendations. Isolates are taken from poultry, cattle, swine, reindeer and different food and feed.</p>
Harmonization of AMR monitoring in the veterinary and medical fields	<p>According to the OIE recommendations, VGNKI makes efforts to harmonize AMR monitoring in the veterinary and medical fields. The contacts with the Institute of Antimicrobial Chemotherapy (Smolensk) was the first step.</p> <p>The Institute of Antimicrobial Chemotherapy (is a part of Smolensk State Medical University) is a research institute under the power of Ministry of Health. Institute is the leading Russian organization for antimicrobial susceptibility testing and collecting data on clinical pathogens resistance to antimicrobials.</p> <p>The Institute of Antimicrobial Chemotherapy has created and maintains the project «The Russian National Map of Antimicrobial Resistance» - free online database with functional, simple and user-friendly visualization of Russian data on resistance of all relevant clinical pathogens to different classes of antimicrobial agents.</p> <p>VGNKI and The Institute of Antimicrobial Chemotherapy agreed on a close cooperation in the field of antimicrobial resistance research and control. That includes providing of VGNKI data on zoonotic pathogens resistance to clinically important antimicrobials to «The Russian National Map of Antimicrobial Resistance» (within the special veterinary section of database).</p>

<p>The National Strategy On Prevention of Antimicrobial Resistance Spread in Russian Federation for the Period from 2017 to 2030</p>	<p>VGNKI proposed or supported the following points of the Draft National Action Plan regarding the veterinary part of it:</p> <ul style="list-style-type: none"> -Ban of antimicrobials use for any purposes other than treatment -Control of medical feed manufacturing, including licensing of producers. -Use of antimicrobials not included in approved lists is subject to administrative proceedings - Ban on advertising of antimicrobials - Prevention of illegal trade and illegal application of antimicrobials - Lists of antimicrobials which are a) banned for use, b) with restriction of use, c) with special rules of use and d) allowed to be used on prescription only (prescription only use for fluoroquinolones, 3rd and 4th generation cephalosporins, colistin). - Tracing back all stages of antimicrobials circulation and application using special electronic information systems, e.g. input of data on prescription of primarily important antimicrobials (e.g. colistin, fluoroquinolones, 3-4th generation cephalosporins). Collection data on antimicrobial volumes used in animal husbandry - Harmonization of laboratory methods for antimicrobial susceptibility testing within monitoring programs in medical and agricultural sectors. - Improved Training of veterinarians
<p>The National Collection of strains</p>	<p>One of the functions of VGNKI is to maintain and develop the National Collection of strains, used in veterinary science and animal breeding. The collection contains more than 25 000 strains. The special division of this collection containing resistant and multiresistant strains, which are the most interesting for further research, is planned to be created.</p>
<p>Methods</p>	<p>VGNKI has created and uses for monitoring programs the set of confirmatory (MS-based) and screening (immunochemical) methods for detection in food products of animal origin almost classes of antimicrobials used in livestock husbandry e.g. penicillins, sulfonamides, tetracyclines, macrolides, aminoglycosides, pleuromutilins, phenicols, nitrofurans, nitroimidazoles etc. including critically important drugs for human medicine: fluoroquinolones, colistin and cephalosporins (32 methods plus 35 national and international standards).</p> <p>Next years VGNKI is going to develop methods for antimicrobials and antiprotozoals detection in feed and feed additives, including polypeptides, tetracyclines, macrolides, pleuromutilins, lincosamides, nitroimidazoles, avilamycin etc.</p> <p>Taking into account the rising of OIE and other international organizations awareness of the problem of antimicrobial resistance in the environment, VGNKI is going to develop methods for antimicrobial residues determination in the environment (wastewaters of animal farms, soil etc.).</p> <p>Considering the rising threat of resistance to antifungal drugs VGNKI is going to perform a research project on zoonotic fungi resistance to main antifungal drugs. The project will include risk analysis.</p> <p>In support of OIE and other international organizations recommendations to develop new alternatives to antibiotics, VGNKI is making research on new vaccines for Salmonella infection treatment in piglets.</p>

<p>The National program of AMR monitoring</p>	<p>More than 30 antimicrobials from 12 classes were included in the program based on data on medical, veterinary importance and sales volumes in Russia. Antimicrobial Susceptibility Testing is performed using internationally harmonized broth microdilution method. MIC are interpreted using EUCAST, CLSI and Russian epidemiological and clinical breakpoints. Genes of resistance are investigated using Whole-Genome Sequencing method.</p> <p>Data will be provided to international organizations including OIE.</p> <p>Preliminary results show high prevalence of multiresistant isolates, especially for E.coli (70%). Several large plasmids were discovered conferring simultaneous Salmonella resistance to penicillins, cephalosporins, aminoglycosides, sulfonamides and tetracyclines, similar to plasmids isolated in the USA and Italy.</p> <p>The abovementioned results were presented during poster session of the Second OIE Global Conference on Antimicrobial Resistance and were included in the Book of Abstracts of the Conference.</p>
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ToR : To propose or develop methods and procedures that facilitate harmonisation of international standards and guidelines applicable to the designated specialty

2. Proposal or development of any procedure that will facilitate harmonisation of international regulations applicable to the surveillance and control of animal diseases, food safety or animal welfare

Proposal title	Scope/Content	Applicable area
<p>Development Russian Interstate Standards (GOST) and State Standarts of the Russian federation (GOST R)</p>	<p>GOST "Medicinal products for veterinary use, feeds, feed additives. Content determination of antioxidants by high performance liquid chromatography method with spectrophotometric detection", Registered: GOST 34439-2018;</p> <p>GOST "Food products, food raw materials, feeds, feed additives. Determination of dioxins mass fraction by high-resolution gas chromatography-mass spectrometry method", Registered: GOST 34449-2018;</p> <p>GOST "Food products, feeds, food raw materials. Content determination of inorganic arsenic by high performance liquid chromatography - mass spectrometry method with inductively connected plasma", Registered: GOST 34462-2018;</p>	<p><input type="checkbox"/> Surveillance and control of animal diseases <input checked="" type="checkbox"/> Food safety <input type="checkbox"/> Animal welfare</p>

<p>Amendments for acting standards, specifying current provisions in terms of dry dairy products preparation for the analysis</p>	<p>GOST 31694-2012 "Food products, food raw materials. Method for content determination of tetracycline antibiotics residuals with the use high performance liquid chromatography with a mass spectrometric detector";</p> <p>GOST 31983-2012 "Food products, feed, food raw materials. Methods for content determination of polychlorinated biphenyls";</p> <p>GOST 32014-2012 "Food products, food raw materials. Method for the content determination of the nitrofurans metabolites residuals with the use of high performance liquid chromatography with a mass spectrometric detector";</p> <p>GOST 32797-2014 "Food products, food raw materials. Method for content determination of quinolone residuals with the use of high performance liquid chromatography with a mass spectrometric detector";</p> <p>GOST 32798-2014 "Food products, food raw materials. Method for content determination of aminoglycoside residuals with the use of high performance liquid chromatography with a mass spectrometric detector".</p>	<p><input type="checkbox"/> Surveillance and control of animal diseases</p> <p><input checked="" type="checkbox"/> Food safety</p> <p><input type="checkbox"/> Animal welfare</p>
<p>Amendments for acting standards, specifying current provisions in terms of dry dairy products preparation for the analysis</p>	<p>GOST 32834-2014 "Food products, food raw materials. Method for content determination of anthelmintic residuals with the use of high performance liquid chromatography with a mass spectrometric detector";</p> <p>GOST 32881-2014 "Food products, food raw materials. Method for content determination of the nonsteroidal anti-inflammatory drug residuals with the use of high performance liquid chromatography with a mass spectrometry detector";</p> <p>GOST 33634-2015 "Food products, food raw materials. ELISA method for content determination of fluoroquinolone antibiotics residuals";</p> <p>GOST R 54518-2011 "Food products, feeds, food raw materials. Method for content determination of coccidiostatics with the use of high performance liquid chromatography with a mass spectrometric detector";</p> <p>GOST R 54904-2012 "Food products, food raw materials. Method for content determination of the sulfonamides, nitroimidazoles, penicillins, amphenicols residuals with the use of high performance liquid chromatography with a mass spectrometric detector".</p>	<p><input type="checkbox"/> Surveillance and control of animal diseases</p> <p><input checked="" type="checkbox"/> Food safety</p> <p><input type="checkbox"/> Animal welfare</p>

Project	<p>GOST "Food products, food raw materials. Method for content determination of sulfonamides, nitroimidazoles, penicillins, amphenicols residuals with the use of high performance liquid chromatography with a mass spectrometric detector";</p> <p>GOST "Food products, feed, food raw materials. Method for content determination of coccidiostatics with the use of high performance liquid chromatography with a mass spectrometric detector";</p> <p>GOST "Food products, food raw materials. Methods for content determination of insectoacaricides";</p> <p>GOST "Food products, feeds, food raw materials. Determination of inorganic and methylated mercury compounds mass fraction with the use of high performance liquid chromatography - inductively connected plasma mass spectrometry";</p> <p>GOST "Content determination of polycyclic aromatic hydrocarbons with the use of high performance liquid chromatography technic with fluorimetric detection";</p> <p>GOST "Medicinal products for veterinary use, feeds, feed additives. Method for content determination of aromatic components with the use of gas-liquid chromatography with flame ionization detection".</p>	<p><input type="checkbox"/> Surveillance and control of animal diseases</p> <p><input checked="" type="checkbox"/> Food safety</p> <p><input type="checkbox"/> Animal welfare</p>
Project	<p>GOST "Food products, food raw materials. Method for content determination of sulfonamides, nitroimidazoles, penicillins, amphenicols residuals with the use of high performance liquid chromatography with a mass spectrometric detector";</p> <p>GOST "Food products, feeds, food raw materials. Method for content determination of coccidiostatics with the use of high performance liquid chromatography with a mass spectrometric detector";</p> <p>GOST "Food products, food raw materials. Methods for content determination of insectoacaricides".</p>	<p><input type="checkbox"/> Surveillance and control of animal diseases</p> <p><input checked="" type="checkbox"/> Food safety</p> <p><input type="checkbox"/> Animal welfare</p>

Project	<p>GOST "Food products, food raw materials. Immunochemical method for content determination of lincomycin residuals";</p> <p>GOST "Food products, food raw materials. Method for content determination of polypeptide antibiotics residuals with the use of high performance liquid chromatography with mass spectrometric detection";</p> <p>GOST "Food products, feeds, food raw materials. Methods for determination of polybrominated contaminants";</p> <p>GOST "Natural honey. Method for amount determination of antibacterial, antiparasitic, antifungal drug residuals with the use of high performance liquid chromatography with mass spectrometric detection";</p> <p>GOST "Natural honey. Content determination of insecticides with the use of gas chromatography with mass spectrometric detection";</p> <p>GOST "Natural honey. Determination of glufosinate, glyphosate and its metabolite with the use of high performance liquid chromatography method with high-resolution flight time mass spectrometric detector";</p> <p>GOST "Fish, non-fish objects and products from them. Method for determination of polyfluorinated pollutants with the use of high-performance liquid chromatography with mass spectrometric detection";</p> <p>GOST "Fish, non-fish objects and products from them. Method for multicomponent determination of ficotoxins with the use of high performance liquid chromatography with mass spectrometric detection";</p>	<input type="checkbox"/> Surveillance and control of animal diseases <input checked="" type="checkbox"/> Food safety <input type="checkbox"/> Animal welfare
Project	<p>GOST "Feeds of plant origin, fodder. Content determination of glufosinate, glyphosate and its metabolite with the use of high performance liquid chromatography with high-resolution flight time mass spectrometric detector";</p> <p>Amendment No. 1 for GOST 32834-2014 "Food products, food raw materials. Method for determination of anthelmintic residuals with the use of high performance liquid chromatography with a mass spectrometric detector";</p> <p>Amendment No. 1 for GOST 34285-2017 "Food products, food raw materials. Method for detection of chemotherapeutic veterinary drugs with the use of enzyme immunoassay with chemiluminescent detection and biochip technology".</p>	<input type="checkbox"/> Surveillance and control of animal diseases <input checked="" type="checkbox"/> Food safety <input type="checkbox"/> Animal welfare

ToR: To establish and maintain a network with other OIE Collaborating Centres designated for the same specialty, and should the need arise, with Collaborating Centres in other disciplines

ToR: To carry out and/or coordinate scientific and technical studies in collaboration with other centres, laboratories or organisations

3. Did your Collaborating Centre maintain a network with other OIE Collaborating Centres (CC), Reference Laboratories (RL), or organisations designated for the same specialty, to coordinate

scientific and technical studies?

Yes

Name of OIE CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
Brucellosis Laboratory, Bacteriology Division, Animal and Plant Quarantine Agency (QIA), Ministry of Agriculture, Food and Rural Affairs (MAFRA), Republic of Korea	Republic of Korea	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East	FGBU "VGNKI" is going to participate in two twinning projects to create OIE certified laboratories for brucellosis and salmonellosis on its premises and to improve the diagnosis of these diseases. The estimated implementation period of the project is from 2019 to 2021 inclusive

4. Did your Collaborating Centre maintain a network with other OIE Collaborating Centres, Reference laboratories, or organisations in other disciplines, to coordinate scientific and technical studies?

Yes

Name of OIE CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
Serbian Scientific Veterinary Institute "Novi Sad"	Serbia	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East	food and feed safety
National Institute of Marine Research (IMR)	Norway	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East	food and feed safety
Veterinary Institute of the Technical University of Denmark (DTU)	Denmark	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East	food and feed safety

ToR: To place expert consultants at the disposal of the OIE.**5. Did your Collaborating Centre place expert consultants at the disposal of the OIE?**

No

ToR: To provide, within the designated specialty, scientific and technical training to personnel from OIE Member Countries

6. Did your Collaborating Centre provide scientific and technical training, within the remit of the mandate given by the OIE, to personnel from OIE Member Countries?

No

ToR: To organise and participate in scientific meetings and other activities on behalf of the OIE

7. Did your Collaborating Centre organise or participate in the organisation of scientific meetings on behalf of the OIE?

Yes

National/International	Title of event	Co-organiser	Date (mm/yy)	Location	No. Participants
International	Second OIE Global Conference on Antimicrobial Resistance	-	10\18	Marrakesh, Marocco	3
International	the Fifth session of the working group of the OIE Regional Commission for Europe at the premises of FGBU "VGNKI"	OIE	04/18	Moscow	6

ToR: To collect, process, analyse, publish and disseminate data and information relevant to the designated specialty

8. Publication and dissemination of any information within the remit of the mandate given by the OIE that may be useful to Member Countries of the OIE

a) Articles published in peer-reviewed journals: 7

1. D.A. Makarov, A.A. Komarov, V.V. Ovcharenko, E.A. Nebera, A.I. Kozhushkevich, A.M. Kalantaenko, E.L. Afanasieva, S.V. Demidova Dioxin and heavy metals contamination of reindeer offal from russian far north regions (IN RUSSIAN) Article Agricultural Biology, 2018, vol 53, № 2, pp. 364-373.
2. Alexander Anatolyevich Komarov, Emil Kasymovich Rakhmatullin, Vladislav Evgenievich Abramov, Dmitry Nikolaevich Urazaev, and Mikhail Vladimirovich Arisov, Toxicodynamic Study The "Startin-Phyto" Drug Article Research Journal of Pharmaceutical, Biological and Chemical Sciences. - November -December 2018 RJPBCS 9(6) Page No. 1927-1933.
3. BORUNOVA, S.M. VITAL STAIN IN MILK-BASED MEDIUM TO EVALUATE SPERM QUALITY / S.M. BORUNOVA, V.V. NIKULIN, B.S. IOLCHIEV, P.N. ABRAMOV, O.E., BADMAEV, A.S., RYBCHENKO // RUSSIAN AGRICULTURAL SCIENCE. - 2018. - №4. - P. 354-355.

4. BORUNOVA, S. INFLUENCE OF LASER RADIATION ON THE SPERM OF BULLS: MATEP. MEЖД. КОНФ. 22ND ANNUAL CONFERENCE OF THE EUROPEAN SOCIETY FOR DOMESTIC ANIMAL REPRODUCTION (ESDAR) / S. BORUNOVA, B. IOLCHIEV, P. ABRAMOV, O. BADMAEV, R. IOLCHIEV, A. RIBCHENKO // REPRODUCTION IN DOMESTIC ANIMALS. - 2018. - V. 53. - P. 147. SCOPUS, WEB OF SCIENCE)
5. Gergel M.A., Prasolova O.V., Soltynskaya I.V., Krylova E.V., Golovko O.O., Kuzmina E.V., Davydova E.E. Development of methods for the quantitative determination of GM rapeseed in feed. *Veterinary science*, 2018- No. 11, p. 53-56.
6. Soltynskaya I.V., Prasolova O.V., Vetoshnikova B.U., Minaylova A.S., Pleskacheva M.A., Davydova E.E. Method of the species identification based on mitochondrial genomes sequencing. *Veterinary science*, No. 1, p. 55
7. Gergel M.A., Prasolova O.V. Development of methods for identification of genetic structures in the framework of a unified approach to the identification of GMOs of plant origin. *Regulatory and legal issues of veterinary medicine*, No. 4, p. 170-175

b) International conferences: 44

1. R.N. Selimov, A.A. Dzhatdoeva., P.S. Metalnikov, A. Komarov Determination of mycotoxins content in feed raw materials by high performance liquid chromatography with mass spectrometric detection. Thesis The 10th World mycotoxin Forum. Amsterdam, Netherlands, 12-14 March, 2018. P. 98
2. A.A. Shelepchikov, A.A. Komarov, V.V. Ovcharenko, A.I. Kozhushkevich, A.M. Kalantaenko, K.A. Turbarina A NOVEL METHOD FOR DETERMINING PBDE AND PCB IN LIPOPHILIC MATRICES BY MS/MS AND HRMS Thesis XI International Mass Spectrometry Conference on Petrochemistry, Environmental and Food Chemistry. Bled, Slovenia. - April 15-18, 2018. P.36-37.
3. A.A. Shelepchikov, K.A. Turbarina, E.S. Brodskii, E.Ya. Mir-Kadyrova, V.V. Ovcharenko, A.A. Komarov, SOLID PHASE EXTRACTION OF POLYCHLORINATED DIBENZO-p-DIOXINS, DIBENZOFURANS, AND DIOXIN-LIKE POLYCHLORINATED BIPHENYLS FROM FATS Article DOKLADY CHEMISTRY, 2018, Vol. 481. Part 2, pp. 170-172
4. Dzatdoeva A.A., Selimov R.N., Gracheva T.S., Metalnikov P.S., Komarov A.A. Investigation of mycotoxin contamination of feed and feed materials in Russia (IN RUSSIAN). Thesis Anniversary conference on Mycology and Microbiology, Moscow 11-12 april 2018. *Advances of medical mycology*, vol. XIX, pp. 297-298.
5. A.V. Sorokin R.N. Selimov, A.A. Komarov COMPLEX APPROACH FOR POLAR HERBICIDES DETERMINATION IN OILSEEDS, CEREAS AND HONEY BY HPLC-QTOF Thesis XI International Mass Spectrometry Conference on Petrochemistry, Environmental and Food Chemistry. Bled, Slovenia. - April 15-18, 2018. P.47
6. I. Nesterenko, V. Safronova, K. Filippova, A. Komarov, Development of a direct enzyme-linked immunoassay for the detection of lincomycin in milk, 8th International symposium on Hormone and Veterinary Drug Residue Analysis. Ghent, Belgium. 22-25 May, 2018. P. 127
7. R. Selimov, I. Goncharova P. Metalnikov, D. Nekrasov, A. Glazdov, A. Sorokin, A. Komarov, Development of confirmatory multiresidue method for determination of anthelmintic drugs residues in fish by HPLC-MS/MS Thesis 8th International symposium on Hormone and Veterinary Drug Residue Analysis. Ghent, Belgium. 22-25 May, 2018. P. 154
8. P. Metalnikov, R. Selimov, I. Goncharova, I. Batov, A. Komarov, Development of the multiclass method for determination of veterinary drug residues in food by UPLC-MS/MS using ORBITRAP ELITE. Thesis 8th International symposium on Hormone and Veterinary Drug Residue Analysis. Ghent, Belgium. 22-25 May, 2018. P.124.
9. P. Metalnikov, I. Batov, R. Selimov, A. Komarov, Development and validation of a confirmatory method for determination of polypeptide antibiotics by HPLC-MS/MS Thesis 8th International symposium on Hormone and Veterinary Drug Residue Analysis. Ghent, Belgium. 22-25 May, 2018. P.61.
10. Renat Selimov, Pavel Metalnikov, Elizaveta Goncharova, Irina Goncharova, Ilya Batov, Alexander Komarov, Development of LC-MS/MS method for determination of hydrophilic phycotoxins. Thesis 66th Conference on Mass Spectrometry and Allied Topics, San Diego, CA, USA, June 3-7, 2018. Conference Program in Journal of Am. Soc. Mass Spectrom. V. 29. Supplement 1. June 2018. P. 152.
11. Elena Nebera; Svetlana Demidova; Nikita Bardyugov; Alexander Komarov, COMPARISON OF TWO METHODS FOR DETERMINATION OF IODINE IN FOOD BY INDUCTIVELY COUPLED PLASMA-MASS SPECTROMETRY (ICP-MS). Thesis 9th Nordic Conference on Plasma Spectrochemistry. June 10-13, 2018. Loen, Norway, p. 95.
12. Irina S. Nesterenko, Kseniya M. Filippova, Valentina A. Safronova, Yuliya V. Dobryakova, Alexander A. Komarov, Development of a direct competitive ELISA for the detection of lincomycin in milk and milk products Thesis 4th International Congress of the European Association for Veterinary Pharmacology and Toxicology, Wroclaw, Poland, June 24-27, 2018. *Journal of Veterinary Pharmacology and Therapeutics*. Vol. 41, supplement 1, June 2018. P. 117.
13. Sorokin A.V., Nesterenko I.S., Selimov R.N., Komarov A.A., Determination of polar herbicides in honey by HPLC-QTOF Thesis 4th International Congress of the European Association for Veterinary Pharmacology and Toxicology, Wroclaw, Poland, June 24-27, 2018. *Journal of Veterinary Pharmacology and Therapeutics*. Vol. 41, supplement 1, June 2018. P. 106-107
14. Pavel Metalnikov, Ilya Batov, Renat Selimov, Alexander Komarov, Vyacheslav Nikulin, A MULTI-RESIDUE CONFIRMATORY METHOD FOR THE DETERMINATION OF SEDATIVES BY HPLC-MS/MS Thesis 22nd International Mass Spectrometry Conference. - Florence, August 26-31, 2018, p. 1119.

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