World Organisation for Animal Health

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WOAH Collaborative Centre Reports Activities 2025

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CENTRE INFORMATION

***Title of WOAH Collaborating Centre**	Food Safety in Eastern Europe, Central Asia and Transcaucasia
***Address of WOAH Collaborating Centre**	The Russian State Center for Animal Feed and Drug Standardization and Quality (FGBU VGNKI)
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***Name Director of Institute (Responsible Official):**	Natalya Vladimirovna Klimkina
***Name (including Title and Position) of Head of the Collaborating Centre (WOAH Contact Point):**	Alexey V. Tretyakov
***Name of the writer:**	Olga Ivanova

TOR 1 AND 2: SERVICES PROVIDED

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

Category	Title of activity	Scope
		As part of state quality and safety monitoring VGNKI annually carries out a program of tests for chemical contaminants (antibacterial agents, hormonal growth promoters and other animal drugs, heavy metals, persistent organic pollutants, pesticides, mycotoxins, etc.), as well as adulteration (dairy products containing non-vegetable fats, meat/fish products containing meat from undeclared animal species), microbiological contaminants, and other indicators. Research is conducted on food products of animal origin (meat, offal, milk, fish, honey, meat and dairy products), feed and feed additives, and animal-derived biomaterials. In 2025 VGNKI conducted 16,381 tests on 6,906 samples, an average of 2.3 tests per sample. Of these, 4,661 samples were of domestic origin (67%). The number of food product samples that did not meet EAEU safety and quality requirements due to chemical and microbiological contamination above maximum

Food security (true)	State monitoring of food safety	permissible levels and adulteration was 207 out of 5,612 (3.7%). For food products, the highest percentage of positive tests (14.0%) was in the "game" category due to the presence of mercury, cadmium, and dioxins in reindeer by-products (kidneys and liver). Also among the product categories with the highest proportion of positive samples were imported non-fish fishery products, honey, and dairy products. The share of positive samples in the category of non-fish species of imported fisheries was 5.7% due to the detection of heavy metals and residues of antimicrobial agents. In honey, detections were due to exceeded permissible levels of hydroxymethylfurfuride and the presence of antimicrobial residues. In the latter case, the detections are primarily due to the zero tolerance for residues of almost all veterinary drugs in honey, in accordance with EAEU legislation. In dairy products, the most frequently detected violations were related to fatty acid composition and the presence of vegetable fats, as well as exceeding permissible levels of preservatives. Meat and offal (beef, pork, horse meat), poultry and meat products were contaminated with antimicrobial agents, coccidiostats, pathogenic microorganisms (salmonella and listeria), and foreign DNA. Fish were contaminated with heavy metals, triphenylmethane dyes, and antimicrobial drug residues. Eggs were contaminated primarily with coccidiostat residues. No violations of quality and safety indicators were found in samples of drinking milk, meat, offal and rabbit products, as well as fish and non-fish fishery products caught in the natural habitat, produced domestically.
Feed safety (true)	State monitoring of feed safety	The largest number of tests were conducted on feed and feed additives (19% of the total number of tests) and dairy products (17%). In the feed and feed additives category, 86 out of 1,294 samples (6.6%) were found to be positive. In feed, discoveries were associated with the detection of heavy metals, GMOs and foreign DNA (unspecified species).

TOR 3: HARMONISATION OF STANDARDS

2. Proposal or development of any procedure that will facilitate harmonisation of international regulations applicable to the main fucus area for which you were designated

Proposal title	Scope/Content	Applicable Area
Methodological guidelines	Methodological guidelines MU A-1/166 for determining the residual content of tetracyclines in livestock products using high-performance liquid chromatography with mass spectrometric detection.	Laboratory Expertise
Methodological guidelines	Methodological MU A-1/170 guidelines for determining the residual content of mequindox, quinacetone and cyadox metabolites in livestock products using high-performance liquid chromatography with mass spectrometric detection.	Laboratory Expertise

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Guidelines for the arbitrary determination	Guidelines A1/170 for the arbitrary determination of residual content of mequindox, quinocetone and cyadox metabolites in livestock products by high-performance liquid chromatography with mass spectrometric detection	Laboratory Expertise
Methodological guidelines	Methodological guidelines MU A-1/164 for the determination of organochlorine pesticides in livestock offal using gas chromatography with mass spectrometric detection	Laboratory Expertise
Patent	Patent No. 2837303 Russian Federation, SPK G01N 30/02 (2024.08); Method for detecting residual quantities of piperazine in biological tissues and objects of animal origin: No. 2024122147: declared 04.08.2024 : published 28.03.2025 / A.E. Zhedulov, D.Yu. Nekrasov, A.V. Sorokin; applicant the Russian State Center for Animal Feed and Drug Standardization and Quality (VGNKI). –25 pp.	Laboratory Expertise
Patent	Patent: A.E. Zhedulov, D.Yu. Nekrasov, A.V. Sorokin. Method for determining residual quantities of piperazine in biological tissues and objects of animal origin. (Application No. 2024122147/28(049342).	Laboratory Expertise

3. In exercising your activities, have you identified any regulatory research needs* relevant for WOAH?

No

4. Did your Collaborating Centre maintain a network with other WOAH Collaborating Centres (CC), Reference Laboratories (RL), or organisations designated for the same specialty, to coordinate scientific and technical studies?

Yes

Name of WOAH CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
The All-Russian Scientific Institution of Meat Industry named after V.M. Gorbatov	Russia	Europa	Research on the movement of food pathogens within the food chain
Central Research Institution of Epidemiology (subordinate to Rospotrebnadzor)	Russia	Europa	Mutual cooperation on the issues AMR in food products

TOR 4 AND 5: NETWORKING AND COLLABORATION

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

Yes

Name of WOAH CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
Azerbaijan Food Safety Institute	Azerbaijan	Asia and Pacific	Joint research on the control of chemical contaminants and microbiological

			indicators in food products
I.M. Sechenov First Moscow State Medical University of the Ministry of Health of the Russian Federation (Sechenov University)	Russia	Europe	Development of methods for monitoring chemical contaminants using HPLC-MS/MS in food products and feed.
Federal Center for Toxicological, Radiation and Biological Safety	Russia	Europe	Joint research on the control of chemical contaminants in food and feed.
All-Russian Dairy Research Institute (VNIMI)	Russia	Europe	Joint research on the control of chemical contaminants in milk and dairy products
The Institute of Physical Chemistry and Electrochemistry RAS (IPCE RAS)	Russia	Europe	Interaction on the development of methods for monitoring chemical pollutants using HPLC-MS/MS.

TOR 6: EXPERT CONSULTANTS

6. Did your Collaborating Centre place expert consultants at the disposal of WOAH?

No

TOR 7: SCIENTIFIC AND TECHNICAL TRAINING

7. Did your Collaborating Centre provide advice/services to requests from Members in your main focus area?

Yes

As part of its activity, VGNKI conducts tests of imported food products in order to evaluate their safety. In 2025, 1 528 samples of products of foreign origin were tested, 26 samples were identified as positive. Countries, which export the most of their products to Russia, are Belarus, China, Chile, Turkey, Iran, India.

8. Did your Collaborating Centre provide scientific and technical training, within the remit of the mandate given by WOAH, to personnel from WOAH Members?

Yes

a) Technical visit : 0

b) Seminars : 0

c) Hands-on training courses: 6

d) Internships (>1 month) : 0

Type of technical training provided (a, b, c or d)	Content	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
C	Determination of anthelmintics in livestock products by high-performance liquid chromatography with a mass spectrometric detector	Republic of Belarus	3
C	Detection, identification and quantification of GMOs of plant origin in feed and feed additives	Islamic Republic of Iran	3

TOR 8: SCIENTIFIC MEETINGS

9. Did your Collaborating Centre organise or participate in the organisation of scientific meetings related to your main focus area on behalf of WOAH?

No

TOR 9: DATA AND INFORMATION DISSEMINATION

10. Publication and dissemination of any information within the remit of the mandate given by WOAH that may be useful to Members of WOAH

a) Articles published in peer-reviewed journals:

7

1. Tret`yakov A.V. Mass spectrometry as a tool for ensuring food safety: practical aspects of application using the example of the works of the VGNKI / A.V. Tretyakov, O.I. Lavrukhina, L.K. Kish, D.Yu. Nekrasov, I.V. Batov, A.Z. Ispiryan, A.M. Lebedev, D.A. Makarov, E.S. Kozeicheva, M.A. Gergel // Analytical Chemistry Journal. - 2025. - 80. - No. 2 - pp. 125-139.

2. Tret`yakov A.V., Lavrukhina O.I., Kish L.K., Nekrasov D.Yu., Batov I.V., Ispiryan A.Z., Lebedev A.M., Makarov D.A., Kozeicheva E.S., Gergel` M.A. Mass spectrometry as a tool for food safety ensurance: practical aspects of application based on an example of works of VGNKI. Journal of Analytical Chemistry. 2025; 80(2): pp. 213-223.

3. Nekrasov, D.Yu. Formation of a professional as the goal of teaching activity / D.Yu. Nekrasov, G.G. Nagiev // Proceedings of the III international scientific and practical conference "Global Issues Conference 2025: Veterinary Medicine, Biology, Biotechnology, Zootechnology, Pedagogical and Philological Sciences", May 12-13, 2025 / ed.: S.V. Pozyabin, A.A. Deltsov, M.V. Selina [et al.]. - Moscow: MGAVMiB - MBA named after K.I. Skryabin, 2025. - pp. 721-726.

4. Lavrukhina, O.I. Stability and accumulation of diclofenac in water and soil and its migration into the vegetative parts of plants / O.I. Lavrukhina, D.Yu. Nekrasov, A.V. Tretyakov, I.V. Batov, A.P. Bogdanova // Agrochemical Bulletin. – 2025. – No. 6. – pp. 73-80

5. Sorokin A.V., Zhedulov A.E. Analysis of biological fluids and animal hair for the content of beta-adrenergic agonists by the method of chromatograph mass spectrometry // Factory laboratory. Diagnostics of materials. 2025. Vol. 91. No. 11. pp. 13-25. DOI: https://doi.org/10.26896/1028-6861-2025-91-11-13-25 (WOS+Scopus)

6. Mass spectrometry as a tool for ensuring food safety: practical aspects of application using the example of the works of VGNKI / TRETYAKOV A.V., LAVRUKHINA O.I., KISH L.K., NEKRASOV D.Yu., BATOV I.V., ISPRYAN A.Z., LEBEDEV A.M., MAKAROV D.A., KOZEICHEVA E.S., GERGEL M.A. // Journal of Analytical Chemistry. - 2025. - Vol. 80, No. 2. - pp. 125-139.

7. Mass Spectrometry as a Tool for Food Safety Ensurance: Practical Aspects of Application Based on an Example of Works of VGNKI / A.V. Tret'yakov, O.I. Lavrukhina, L.K. Kish [et al.] // Journal of Analytical Chemistry. – 2025. – Vol. 80, No. 2. – pp. 213-223.

b) International conferences:

3

1. May 12-13, 2025 , Moscow, III International Scientific and Practical Conference "Global Issues Conference 2025: Veterinary Medicine, Biology, Biotechnology, Zootechnology, Pedagogical and Philological Sciences", remote participation.

2. "Measures to curb antimicrobial resistance," Ivanova O.E., "Food Safety and Joint Efforts to Reduce Antimicrobial Resistance" as part of the project "Reducing the Spread of Antimicrobial Resistance in the Agricultural Sector" under the auspices of FAO, Kyrgyzstan, Bishkek, September 9-10, 2025.

3. Improving the diagnosis of antibiotic-resistant zoonotic pathogens and alternative means of prevention in the fight against them Conference with international participation "Food Safety and Joint Efforts to Reduce Antimicrobial Resistance," held under the auspices of the Federal Service for Supervision of Consumer Rights Protection and Human Welfare (Rospotrebnadzor) with technical assistance from the Food and Agriculture Organization of the United Nations (FAO).

c) National conferences:

10

1. Nekrasov, D.Yu. Simultaneous HPLC-MS/MS determination of residual quantities of the most significant veterinary drugs in soil / D.Yu. Nekrasov, O.I. Lavrukhina, I.V. Batov, A.V. Tretyakov, A.V. Shcherbakov, O.P. Vergunov // XIII All-Russian Conference on the Analysis of Environmental Objects: Conference Abstracts (St. Petersburg, May 19–23, 2025). – 2025. – pp. 92.

2. Nekrasov, D. Yu. Identification of biologically active products of enrofloxacin transformation in in vivo experiments using chromatograph mass spectrometry / D.Yu. Nekrasov, O.I. Lavrukhina, A.V. Tretyakov, A.A. Shelepchikov // XI All-Russian Conference "Mass Spectrometry and Its Applied Problems". - 2025. - pp. 108 (abstracts).

3. Lavrukhina, O.I. Study of diclofenac accumulation in environmental objects / O.I. Lavrukhina, D.Yu. Nekrasov, A.V. Shcherbakov [et al.] // Ecobiotech-2025: Proceedings of the VIII All-Russian Conference with International Participation, Ufa, October 1–4, 2025. – Ufa: Ufa Federal Research Center of the Russian Academy of Sciences. – 2025. – pp. 97.

4. Sorokin A.V., Zhedulov A.E., Batov I.V., Nekrasov D.Yu. Optimization of mass spectrometric detection of propofol for HPLC-MS/MS analysis of livestock products // abstracts of reports of the VMSO congress and the XI All-Russian conference with international participation "Mass spectrometry and its applied problems": digital publication, 2025 Moscow, abstracts, pp. 65. (WOS+Scopus)

5. Detection of chlorpyrifos using QuEChERS sample preparation within the framework of monitoring residual OCP contents in soil / A.M. Lebedev, O.I. Lavrukhina, D.V. Nikolenko [et al.] // Ecoanalytics: Collection of abstracts, St. Petersburg, May 19–23, 2025. – St. Petersburg, 2025. – pp. 96.

6. May 19–23, 2025, XIII All-Russian Conference on the Analysis of Environmental Objects "Ecoanalytics-2025", poster presentation.

3. October 13–17, 2025, Moscow, Twelfth Congress of the AMSS, XI All-Russian Conference with International Participation "Mass Spectrometry and its Applied Problems", poster presentation.

7. Sorokin A.V., Zhedulov A.E. Quantitative determination of glyphosate and aminomethylphosphonic acid in soil and water by HPLC-MS/MS. XIII All-Russian Conference on the Analysis of Environmental Objects: Conference Abstracts (St. Petersburg, May 19–23, 2025). – 2025. – pp. 106

8. Sorokin A.V., Zhedulov A.E., Mamedova E.I. Detection of residual amounts of clotrimazole in freshwater fish by HPLC-MS/MS. XIII All-Russian Conference on the Analysis of Environmental Objects: Conference Abstracts (St. Petersburg, May 19–23, 2025). – 2025. – pp. 139
9. Sorokin A.V., Zhedulov A.E. Quantitative determination of perfluoroorganic compounds in the tissues of aquatic organisms by HPLC-MS/MS. XIII All-Russian Conference on the Analysis of Environmental Objects: Conference Abstracts (St. Petersburg, May 19–23, 2025). – 2025. – pp. 171
10. II Conference with International Participation on Food Safety and Joint Efforts to Reduce Antimicrobial Resistance, Moscow, 2025

d) Other (Provide website address or link to appropriate information):

11. What have you done in the past year to advance your area of focus, e.g. updated technology?
For products of animal origin, methods for identification of residues of medicinal products (metabolites of mequindox, quinocetone and cyadox), nitroimidazoles, coccidiostats and xenobiotics were developed.

12. Additional comments regarding your report:
In 2025, VGNKI signed a Scientific, Technical, and Practical Cooperation Agreement with Centro Nacional de Sanidad Agropecuaria (CENSA) of the Republic of Cuba. The agreement covers cooperation between the parties in the areas of quality control and standardization of veterinary drugs, feed and feed additives, and food safety.
In addition VGNKI and the State Scientific Center for Quality Control and Circulation of Veterinary Medicines and Feed Additives under the Committee for Veterinary and Livestock Development of the Republic of Uzbekistan are coordinating to sign a Scientific, Technical, and Practical Cooperation Agreement. The agreement shall cover cooperation between the parties in the areas of quality control and standardization of veterinary drugs, feed and feed additives, and food safety.
Specialists of the international cooperation department of VGNKI accompanied foreign delegations (Mongolia, Malaysia, Bosnia) during their visit in Russia. The topics of food and feed safety were the main concern, as well as the analyses of state veterinary supervision system in Russia.
Preparatory work is still being conducted on signing agreements on scientific and technical cooperation with 2 research centers in China.