Federal Service for Veterinary and Phytosanitary Surveillance

THE MAIN PRINCIPLES OF LABORATORY CONTROL

Food safety

- Safety standards
- Laboratory control of production process
- Veterinary sanitary expertise (VSE) of slaughter products
- Food safety monitoring results in 2010

1. Safety Standards

Customs Union: Russia-Belarus-Kazakhstan

BEFORE 1 July 2010	**- Sanitary epidemiological guidelines and normatives "Hygienic Requirements to Food Safety and Nutritional Value" СанПиН 2.3.2.1078-01** **- Federal Law No 88-F3 of 12.06.2008 "Technical Regulations for Milk and Dairy Products" (Amendment No 163-F3 of 22.07.2010)**
AFTER 1 July 2010	**Unified sanitary and epidemiological requirements to products subject to sanitary and epidemiological surveillance (control).**

Meat and meat-derived foodstuff safety indicators		SanPiN 2.3.2.1078-01	Unified requirements
Microbiology (depending on foodstuff variety)	Mesophilic and facultative aerobic and anaerobic microorganisms	Not more than 10 CFU/g or, depending on species, not more than $1 \times 10^3 – 1 \times 10^4$	Not more than 10 CFU/g or, depending on species, not more than $1 \times 10^3 – 1 \times 10^4$
	Coliform bacteria	None in 1 g	None in 1 g
	Salmonella, List. monocytogenes	None in 25 г	None in 25 г
Toxic elements	Lead	Not more than 0,5 mg/kg	Not more than 0,5 mg/kg
	Arsenic	Not more than 0,1 mg/kg	Not more than 0,1 mg/kg
	Cadmium	Not more than 0,05 mg/kg	Not more than 0,05 mg/kg
	Mercury	Not more than0,03 mg/kg	Not more than0,03 mg/kg
Antibiotics: Chloramphenicol, tetracyclines, grisin, bacitracin		None	None
Pesticides: HCCH (α, β, and γ isomers), DDT and its metabolites		Not more than 0,1 mg/kg	Not more than 0,1 mg/kg
Radionuclides: ^{137}Cesium/ ^{90}Strontium		160 Bq/kg / 50 Bq/kg	
Dioxins		0,000001 mg/kg (pork), 0	

Safety indicators for raw mild and raw cream		Technical regulations (88-F3)	Unifies requirements
Microbiology (depending on product grade)	Mesophilic and facultative aerobic and anaerobic microorganisms	Not more than $1 \times 10^5 – 4 \times 10^6$	Not more than $1 \times 10^5 – 4 \times 10^6$
Pathogenic microbes including Salmonella		None in 25 g	None in 25 g
Somatic cells: Not more than in 1 $см^3$)		400 000 (Highest grade) 1 000 000 (Grade I) 1 000 000 (Grade II)	400 000 (Highest grade) 1 000 000 (Grade I) 4 000 000 (Grade II)
Toxic elements	Lead	Not more than 0,1 mg/kg	Not more than 0,1 mg/kg
	Arsenic	Not more than 0,05 mg/kg	Not more than 0,05mg/kg
	Cadmium	Not more than 0,03 mg/kg	Not more than 0,03 mg/kg
	Mercury	Not more than 0,005 mg/kg	Not more than 0,005 mg/kg
Mycotoxins: Aflatoxin M1		0,0005 mg/kg	0,0005 mg/kg
Antibiotics	Chloramphenicol, tetracyclines, penicillin	Not more than 0,01 U/g (10 µg/kg)	Not Authorized
	Streptomycin	0,5 U/g (500 µg /kg)	Not Authorized
Pesticides		Not more than 0,05 mg/kg	Not more than 0,05 mg/kg
Radionuclides: ^{137}Cesium/ ^{90}Strontium		100 Bq/kg / 25 Bq/kg	
Dioxins		-	
Melamine		-	

2.Laboratory Control of Production Process

- **Federal Law No 29-F3 of 2 January 2000: “On Food Quality and Safety”**
- **Guidelines for the regimen and time schedule of assessing the levels of microbiological and chemical contaminants in meat, poultry and eggs and in products derived therefrom (2000)**
- **Guidelines for the regimen and time schedule of assessing the levels of microbiological and chemical contaminants in milk and dairy products at dairy industry factories (1995)**
- **State Standard GOST 51705.1-2001 «Quality management systems. Food quality management basing on Hazard Analysis and Critical Control Points principles. General requirements»**

Recommended time schedule for control of production process

Safety indicator	Repetition of meat and dairy product sampling depending on product type
Microbiology (Mesophilic and facultative aerobic and anaerobic microorganisms, coliforms, Salmonella, List. mon.)	Once in 10-15 days
Somatic cells (in milk)	Not less than once in 10 days
Toxic elements	1-2 times in 6 months
Mycotoxins: Aflatoxin M1 (in milk)	Once in 3 months
Pesticides	Once in 3-6 months
Antibiotics	Once in 3-6 months
Inhibitors (in milk)	Once in 1

3. Veterinary sanitary expertise of slaughter products

- **RF Law No 4979-1 of 14.05.1993 «On Veterinary»**
- **Federal Law No 29-F3 of 02.01.2000 «On Food Quality and Safety»**
- **Guidelines for veterinary examination of animals destined to slaughter and for veterinary sanitary expertise of meat and meat products.**
- **Veterinary procedural guidelines “Veterinary Sanitary Examination of Slaughter Products”**

Procedure for Slaughter Products VSE

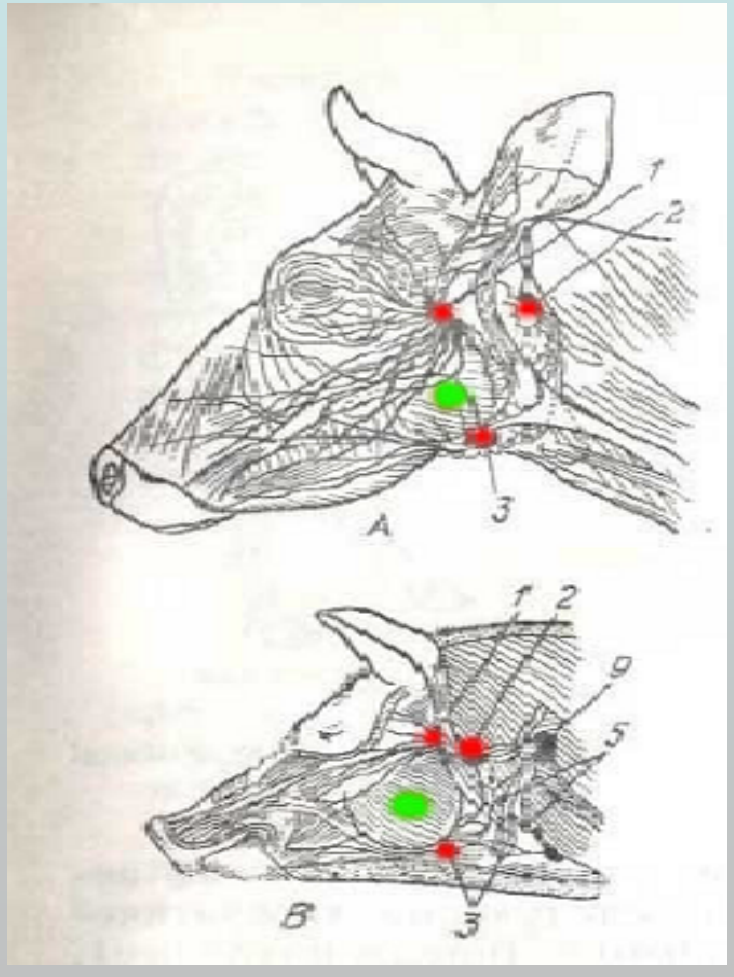
- **Meat and other slaughter products from all suppliers are subject to mandatory after-slaughter veterinary sanitary expertise carried out by state veterinarian.**

- **To facilitate veterinary sanitary expertise of carcases and body organs at slaughtering and meat-processing plants using pipeline processing regimens, there must be provided VSE sites.**

Site organization for slaughter products VSE

- **Cattle processing line: 4 VSE sites for examining of heads, body organs, and carcasses and for the final VSE (branding).**
- **Pig processing line: 5 VSE sites for examining of submandibular lymph nodes for anthrax and of heads, body organs and carcasses and for the final VSE (branding).**
- **Small cattle processing line: 3 VSE sites for examining of body organs and carcasses and for the final BSE (branding)**

Cattle and pig head examination



- **Cattle head: dissected and examined are the submandibular, parotid and retropharyngeal lymph nodes.**
- **Pig head: dissected and examined are the submandibular lymph nodes (for anthrax and tuberculosis) and, also, parotid and cervical lymph nodes.**
- **The external and internal masseters are also dissected and examined.**

Carcass and body organs examination

- **Lungs and trachea, heart, and liver withdrawn from a carcass must retain their natural associations (pluck) and lymph nodes till BSE is completed.**
- **Body organs withdrawn to conveyer desks shall be examined by veterinarian simultaneously with the carcass being examined.**
- **Removing of meat cuttings and body organs from processing shop is not allowed till the completion of VSE including porcine carcass examination for trichinella.**
- **Every porcine carcass shall be examined for trichinellosis.**

Body organs examination

- **<u>The following is subject to mandatory dissection and examination</u>:**
- **lungs, heart, and liver and bile ducts;**
- **stomach (proventricules); and**
- **cattle udder.**
- **<u>The following is subject to dissection and examination by indications</u>:**
- **spleen, kidneys, and intestine;**
- **uterus, testicles, and bladder; and**
- **pancreas.**

Final VSE site

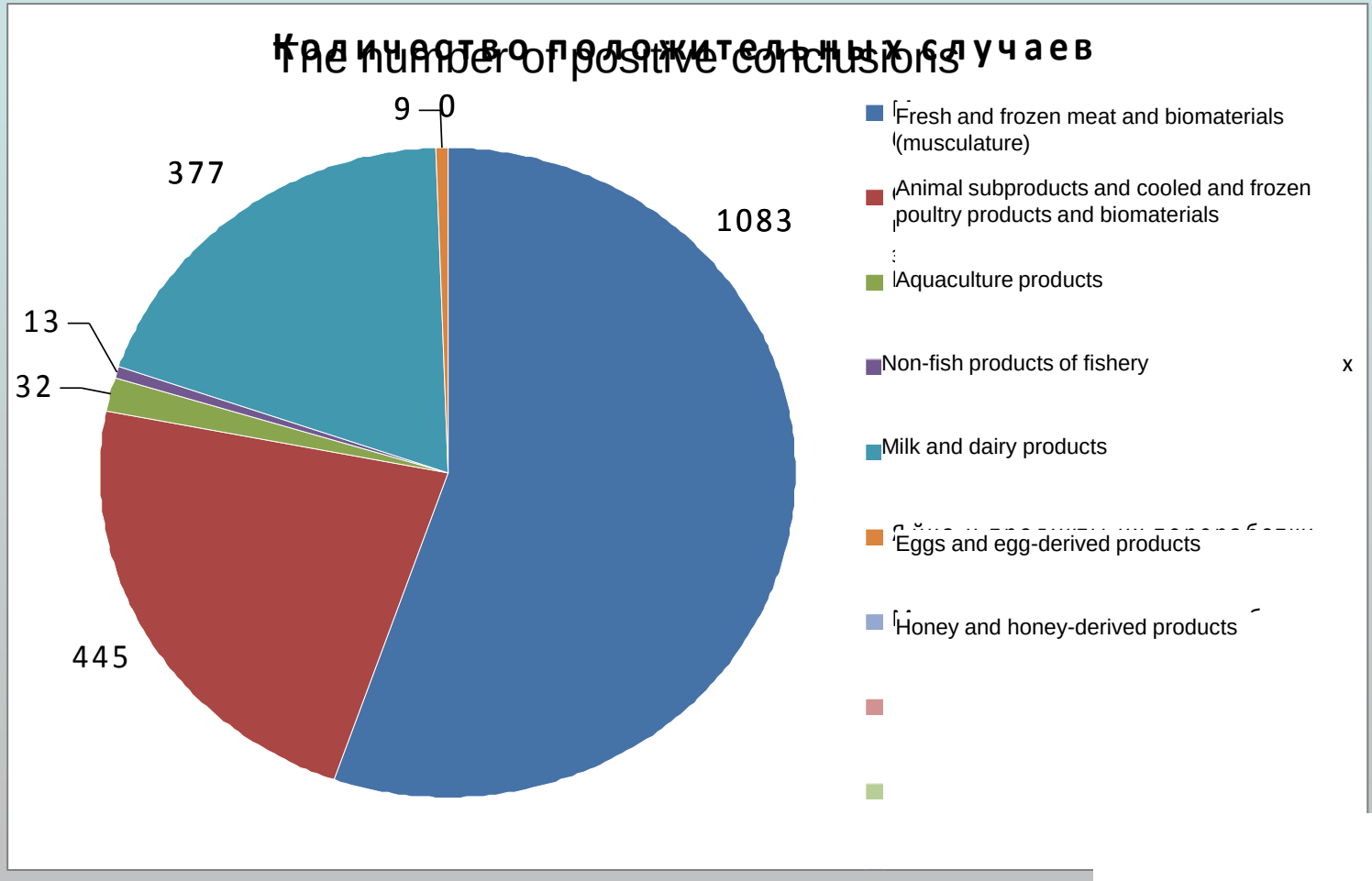
- **VSE at this site is carried out by the most qualified veterinarians.**
- **The location of this site shall insure uninterrupted carcass transfer according to VSE results either to:**
  - **General refrigerator chamber,**
  - **Quarantine chamber (till the final decision as to carcass destination),**
  - **Freezing chamber (for cyst killing),**
  - **Technical utilization/elimination.**
- **Sampling on necessity.**
- **Branding (a carcass is marked with a brand depending on BSE results).**

4. The Results of Food Safety Monitoring in 2010

- **The Laboratory Base of the Russian Federation:**
  - **39 labs of the Russian Agricultural Surveillance**
  - **more than 1500 veterinary labs in the subjects of the Russian Federation**

- **More than 37 000 examinations of imported animal-derived foodstuffs were carried out and about 2000 positive results were obtained in 2010.**

Imported food monitoring in 2010



Skills Sharing Program

- **Among the the research institutions of the Russian Agricultural Surveillance engaged in veterinary, three are especially important for the Surveillance Service:**
- **State Federal Institution (SFI) «Central Scientific and Methodological Veterinary Laboratory» (ФГУ «ЦНМВЛ», www.cnmvl.ru)**
- **SFI «Animal Health Protection Center» (ФГУ «ВНИИЗЖ», http://www.arriah.ru)**
- **SFI «All-Russian State Center of Quality and Standardization of Therapeutic Means for Animals and Forage» (ФГУ «ВГНКИ», http://www.vgnki.ru)**
- **In 2010, these institution were visited by specialists from Germany, Brazil, and USA according to programs for skills sharing.**

Most probable causes of violations

- Veterinary and Sanitary Requirements of the Customs Union (CU) translated into a national language are not available.
- Personnel is not aware of such requirements.
- VSE doesn't accord with the requirements of the Russian Federation.
- CU requirements are not included into manufacturing control programs.

Thank you
for your attention