

NATIONAL FOOD AND VETERINARY RISK ASSESSMENT INSTITUTE



NACIONALINIS
MAISTO IR
VETERINARIJOS
RIZIKOS
VERTINIMO
INSTITUTAS



www.nmvrvi.lt

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NATIONAL FOOD AND VETERINARY RISK ASSESSMENT INSTITUTE

Lithuanian competent institution for risk assessment in the fields of food safety and animal health

- ✓ Mission – to safeguard human and animal health

HEALTHY ANIMAL + SAFE FOOD = HEALTHY HUMAN

- ✓ Established in 2008 after reorganization of the National Veterinary Laboratory (established in 1945) and Lithuanian State Inspection on Veterinary Preparations
- ✓ Branches in Kaunas, Klaipėda, Šiauliai and Telšiai
- ✓ 288 employees



NATIONAL FOOD AND VETERINARY RISK ASSESSMENT INSTITUTE

Accreditation:

- ISO/IEC 17025 (DAkkS, Germany till May 2015)
- ISO/IEC 17025 (Lithuanian National Accreditation Bureau (LA) from 6th May 2015)

- ✓ 423 accredited methods
- ✓ Flexible scope of accreditation since 21 09 2018

ILAC-MRA since 04/2018



LIETUVOS
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BIURAS

NRL *Salmonella* Activities

- ✓ Participation in inter-laboratory trials (EURL)
- ✓ Testing of official samples
- ✓ Annual report for State food and Veterinary Service
- ✓ Reporting of data on zoonoses and outbreaks of food origin to EFSA (European Food Safety Authority)
- ✓ Performing serotyping of *Salmonella* strains
- ✓ Storage of isolates of *Salmonella* spp.
- ✓ Organization of proficiency testing of staff of other branches of NFVRAI
- ✓ Testing for differentiation of vaccine and wild strain

NRL – *Salmonella*



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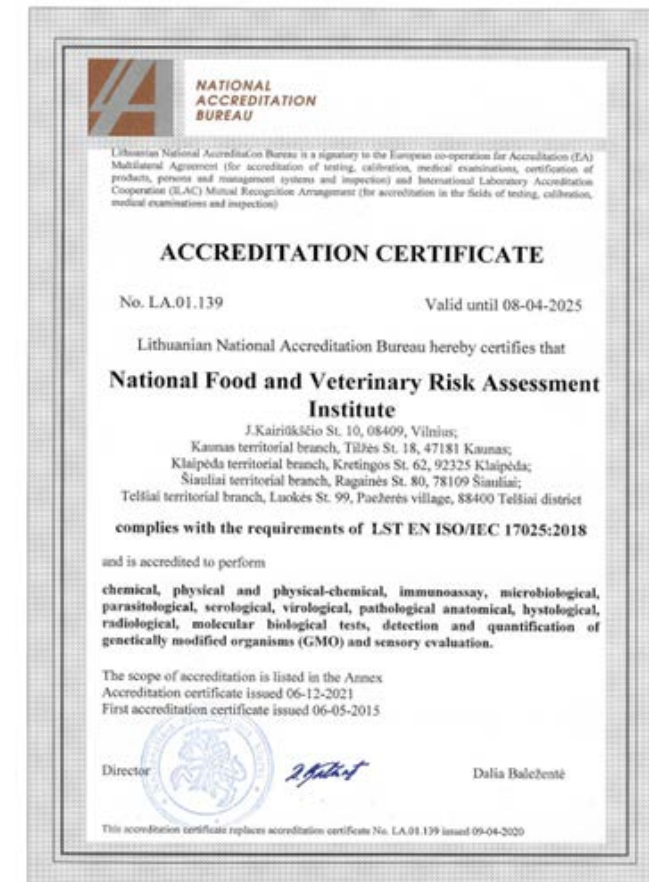
TYRIMAI
ISO/IEC 17025

Nr. LA.01.139

Accreditation detection methods

(Lithuanian National Accreditation Bureau (LA) from 6th May 2015)

- ✓ **ISO 6579 -1** Microbiology of the food chain Horizontal method for the detection, enumeration and serotyping of *Salmonella* spp. Part 1: Detection of *Salmonella* spp.
- ✓ **CEN ISO/TR 6579-3:2014** Microbiology of the food chain – Horizontal method for the detection, enumeration and serotyping of *Salmonella* – Part 3: Guidelines for serotyping of *Salmonella* spp.
- ✓ **SOP B.2** Detection of *Salmonella* in clinical, pathological material and environmental samples.
- ✓ **SOP M.4** Detection of *Salmonella* in food samples using the BAX system Q7



Identification methods

- ✓ Biochemical tests
- ✓ MALDI-TOF
- ✓ *Salmonella* serotyping by antisera

Provision of serotyping of *Salmonella* spp. strains which were isolated in NFVRAI and NFVRAI branches

Year	Number of isolated, units	Serological variants, units
2019	446	34
2020	662	33
2021	459	33
2022	350	27

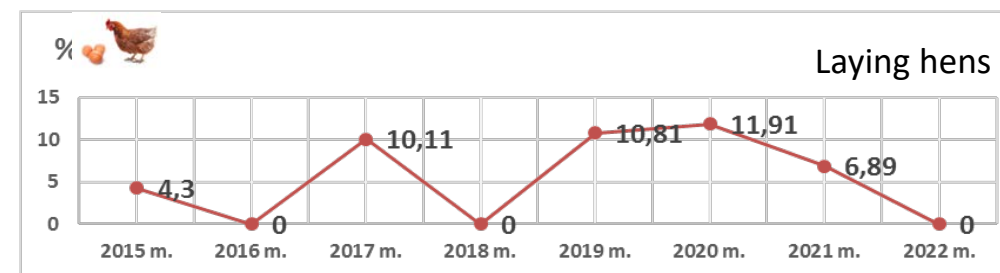
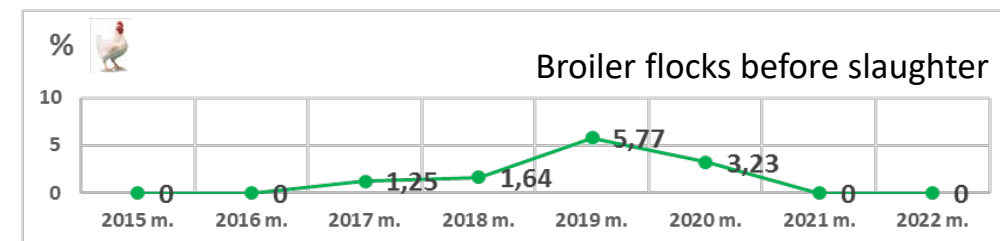
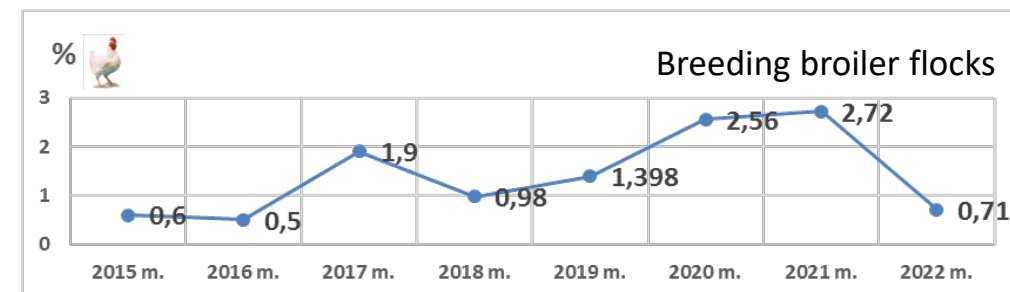
	2021		2022	
Top 10	93	Enteritidis	46	Infantis
	68	Derby	25	Enteritidis
	63	Infantis	21	Mbandaka
	22	Typhimurium	18	Derby
	9	Agona	9	Livingstone
	8	Newport	6	Coeln
	7	Mbandaka	6	Typhimurium
	6	Isangi	4	Rissen
	5	Coeln	3	Kentucky

Monitoring control programmes for NRL

- ✓ *Salmonella* tests to assess the criteria of hygiene process, in primary processing facility (poultry and pig slaughterhouses)
- ✓ The programme for monitoring and importing fodder and fodder materials (samples of fodder taken in accordance with the official fodder sampling programme)
- ✓ National control programmes for *Salmonella* in poultry farms (breeding flocks, broilers, laying hens, turkeys)
- ✓ Samples of pig cecum taken under the AMR monitoring programme

Salmonella national control programmes in poultry farms

Poultry	<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar (positive epidemiological unit)	2014 year	2015 year	2016 year	2017 year	2018 year	2019 year	2020 year	2021 year	2022 year	Total:
Broilers	Enteritidis		1		1	2	1	2	3		10
	Coeln						1				1
	Derby						1				1
	Infantis							1			1
	Indiana				1						1
	Livingstone				1	1					2
	Mbandaka				1			1	1	1	4
	Tennessee						1				1
	Typhimurium (monofazinė) (4,512:i:-)				1						1
	<i>Salmonella</i> spp. O 7 gr.						1				1
	<i>Salmonella</i> spp. O 8 gr.			1							1
spontaneous reaction							1			1	
Laying hens	Agona	4									4
	Enteritidis	2	1		5		4	5	4		21
	Mbandaka				1						1
	Senftenberg								1		1
Turkey	London			4							4
Total:		6	2	5	11	3	9	10	9	1	56



Positive flocks percent

Testing of determination and differentiation between wild and vaccine strain of serotype *Salmonella* Enteritidis

- ✓ In Lithuanian flocks, vaccines based on alive, weakened *Salmonella* Enteritidis bacteria (AVIPRO SALMONELLA VAC E and Salmovac 440) are used
- ✓ In 2018-2022, 28 studies were conducted

Vaccines used for vaccination	Research results from 2018 to 2022		
	Number of <i>S. Enteritidis</i> tested	Confirmed vaccine strain	Confirmed wild strain
AVIPRO SALMONELLA VAC E	28	4	4
Salmovac 440		18	2
	Total	22	6

The programme for monitoring and importing and fodder materials (samples of fodder taken in accordance with the official fodder sampling programme)

Monitoring

*Monitoring/suspecting samples

<i>Salmonella enterica</i> <i>serovar</i>	2014	2015	2016	2017	2018	2019	2020	*2021	*2022	Total:
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Fodder and fodder materials	Coeln								1	1	
	Enteritidis			1			1	1	8	1	12
	Give									1	1
	Infantis									1	1
	Isangi									2	2
	Kentucky						1				1
	Mbandaka									2	2
	London						1	1			2
	Schleissheim									1	1
	Stanleyville									2	2
	Typhimurium					1					1

Suspecting samples								8	1	
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Total:	0	0	1	0	1	3	2	8	11	17
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Salmonella tests to assess the criteria of hygiene process,
 in primary processing slaughterhouses (**broiler chickens**)

Year	Number of defrosted neck skin samples of broiler chickens, units	Number of positive samples, units	Number of batches tested, units	Number of positive batch units	Percent	S. Agona	S. Infantis	S. Mbandaka
2019	105	7	21	2	9,5	1	1	
2020	175	1	35	1	2,9	1		
2021	230	5	46	2	4,3	1		1
2022	250	6	50	3	6,0			3

Salmonella tests to assess the criteria of hygiene process, in primary processing slaughterhouses (**turkeys**)

Year	Number of defrosted neck skin samples of turkeys, units	Number of positive samples, units	Number of batches tested, units	Number of positive batch, units	Percent	S. Agona	S. Livingstone
2020	175	1	35	1	2,9	1	
2022	85	1	17	1	5,8		1

Salmonella tests to assess the criteria of hygiene process, in primary processing slaughterhouses

The surface of pig carcasses (coarse sponges, from 400 cm²).	<i>Salmonella enterica</i> <i>serovar</i>	2017	2018	2019	2020	2021	2022	Total:	
	Bredeney	1							1
	Derby	1		1	2	1	2	7	
	Infantis			2			2	4	
	spontaneous <i>Salmonella</i> spp.			1			1	2	
Total:		2	0	4	2	1	5	14	

Organization of proficiency testing of staff of other branches of NFVRAI

KSP 7.7.2 – Participation in research quality inspection programmes and inter-laboratory comparisons

KSP 7.7.2.B.1 – Organisation of inter-laboratory comparisons

TP 2018/B/1 Environmental samples of the primary production stage

TP 2020/B/1 Environmental samples of the primary production stage

TP 2021/B/1 Environmental samples of the primary production stage

TP 2022/B/1 Environmental samples of the primary production stage

Nacionalinis maisto ir veterinarijos rizikos vertinimo institutas

Bakteriologinių tyrimų skyrius

2021 m. FERMENTUS PRODUKUOJANČIŲ IR SIMBIOTINIŲ *Escherichia coli*, IŠSKIRTŲ IŠ PENIMŲ KIAULIŲ, ŠVIEŽIOS KIAULIENOS IR JAUTIENOS BEI ATSPARUMO ANTIMIKROBINĖMS MEDŽIAGOMS ATASKAITA

2021 m. *Salmonella* spp. PAPLITIMO PENIMOSE KIAULĖSE IR NAMINIUOSE PAUKŠČIUOSE, JŲ ATSPARUMO ANTIMIKROBINĖMS MEDŽIAGOMS ATASKAITA

Vilnius, 2022

Every year, primary data are submitted to the European Food and Safety Authority (EFSA)

<http://www.efsa.europa.eu>



Ačiū už dėmesį!

Thank you for your
attention!



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Lithuania