



MINISTRY OF ECONOMIC DEVELOPMENT, TRADE AND AGRICULTURE OF UKRAINE

STATE ENTERPRISE «ALL-UKRAINIAN STATE RESEARCH AND
PRODUCTION CENTER FOR STANDARDIZATION, METROLOGY,
CERTIFICATION AND CONSUMERS RIGHTS PROTECTION»
(SE «UKRMETRTESTSTANDARD»)

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TEST REPORT

Report # 2951/24x

Scientific-Research Center of Products Testing accredited by National Accreditation Agency of Ukraine on Conformance to Requirements of DSTU ISO/IEC 17025:2017

Accreditation certificate number 20635 of 17 February 2020

Total pages 4



2H677
DSTU ISO/IEC 17025

Kyiv-2020



Table

RESULTS OF TEST

Test item	Requirements	Results of test	Uncertainty, U (k=2, P=0.95)	Test method
1	2	3	4	5

2951. Soya bean meal pellets by DSTU 4230:2003Physicochemical parameters

1	2	3	4	5
Fluorides, %		0.07	± 0.01	GOST 24596.7-91

Nitrates

1	2	3	4	5
Nitrates, mg/kg	max 450	3.3	± 0.5	GOST 13496.19-93

Nitrites

1	2	3	4	5
Nitrites, mg/kg	max 10	not detected (<0.3)		GOST 13496.19-73

Heavy metals

1	2	3	4	5
Copper, mg/kg	max 10.0	11.2	± 3.4	MBB 77-12-97
Zinc, mg/kg	max 50.0	37.8	± 11.3	MBB 77-12-97

Mycotoxins

1	2	3	4	5
T-2 toxin, mg/kg	max 0.1	not detected (<0.014)		MBB 081/12-0254-05
Zearalenone, mg/kg	max 1.0	not detected (<0.016)		MBB 081/12-0256-05

Melamine*

1	2	3	4	5
Melamine, mg/kg	max 2.5	not detected (<0.5)		MBB 17/74-17

* Requirements are given according to Order of Ministry of Healthcare of Ukraine # 368 dd 13.05.2013 about adoption of State hygienic regulations and normative "Regulation setting maximum levels for certain contaminants in foodstuffs"

Radiological characteristics*

1	2	3	4	5
Specific activity of strontium-90, Bq/kg	max 30	less than 14.8		MBB dd 10.08.98

* Requirements are given according to GN 6.6.1.1-130-2006 "Permissible levels content of radionuclides ¹³⁷Cs and ⁹⁰Sr in foodstuff and drinking water"



Molecular-genetic characteristics

Results of test	Test method
Detected target taxon-specific sequence of DNA soya gene (<i>le1</i>)	DSTU ISO 21570:2008
Detected target sequence of 35S promoter Cauliflower Mosaic Virus (CaMV)	DSTU ISO 21569:2008
Detected target sequence of NOS-terminator (nopaline synthase) from <i>Agrobacterium tumefaciens</i>	DSTU ISO 21569:2008
Not detected target sequence of gene phosphinotricin N-acetyltransferase from <i>Streptomyces viridochromogenes</i> (PAT)	MBB 081/12-0751-11
Detected genetically modified specific target sequence GTS 40-3-2	DSTU ISO 21570:2008
Not detected target sequence of gene phosphinotricin N-acetyltransferase from <i>Streptomyces hygroscopicus</i> (BAR)	MBB 081/12-0751-11
Detected target sequence of gene 5-enolpyruvylshikimate-3-phosphate synthase (EPSPS) from <i>Agrobacterium tumefaciens</i> (CP4)	MBB 081/12-0751-11
The content of genetically modified DNA soya defined by target sequence GTS 40-3-2 is 0.24 ± 0.0100 % U(k=2, P=0.95)	DSTU ISO 21570:2008

limit of detection (LOD) 0.1 % (ERM-BF410bk)

Methods and measuring equipment that were used for determination of the parameters:

- determination of molecular genetic indicators was carried out using polymerase chain reaction method in real time (PCR Real - Time) on the amplificator CFX96 ("Bio-Rad", USA);
- determination of copper and zinc content was carried by flame atomic absorption spectrophotometry method on atomic absorption spectrophotometer contr AA 300 ("Analytik Jena AG", Germany);
- determination of mycotoxins content was carried by enzyme-linked immunosorbent assay (ELISA) method using test kits manufactured by "r-Biopharm", Germany and "BioScientific", USA;
- determination of melamine content was carried by enzyme-linked immunosorbent assay (ELISA) method using test kit "AgraQuant® Melamine Sensitive" manufactured by "RomerLabs" on absorbance microplate reader "Sunrise" ("Tecan", Austria).
- determination of the specific activity of radionuclides was carried by scintillation spectrometer method on gamma beta scale spectrometer complex СЕГ-СЕБ-01 (RPE "Atom Komplex Prylad", Kyiv, Ukraine).



1. Client: LLC "Hlobynskyi Processing Plant", 203 Volodymyrivska Str., Hlobyne, Poltava region, 39000, Ukraine

Decision on application # 01079-17/24 dd 17.03.2024, № 01161-17/24 від 24.03.2024 of Ukrainian scientific and methodological center for conformity assessment and testing of food products, articles in contact with food, toys, perfumes, cosmetics and household products (UkrPRODTEST) according to written request # 118 dd 17.03.2024

2. Test sample, registration number:

2951. Soya bean meal pellets by DSTU 4230:2003, lot size 38500 t, production date 01.01.2024-17.03.2024, shelf life 4 months

The note: the name of production is specified according to the recording on sampling.

3. Recording on sampling: dd 17.03.2024. Sampling was done by the representative of Client

4. Sample receiving date: 18.03.2024

5. Testing period: 19.03.2024 - 06.04.2024

6. Results of test¹: represented in the table

7. Conclusion: In the test sample (registration number 2951) genetically modified deoxyribonucleic acid (DNA) of soya that contains target sequences of 35S promoter and NOS-terminator, gene 5-enolpyruvylshikimate-3-phosphate synthase (EPSPS) from *Agrobacterium tumefaciens* (CP4) was detected. The content of genetically modified DNA of soya defined by target sequence GTS 40-3-2 is 0.24 %

8. Executive:

Head of laboratory
Head of laboratory, Dr.
Head of laboratory
Head of laboratory, Ph.D.



_____ Nazarenko
I. Levchuk
Y. Tretiakov
R. Golubets

¹ The results relate only to the items tested.

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