



MINISTRY OF ECONOMIC DEVELOPMENT AND TRADE OF UKRAINE

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

TESTING SERVICE UkrTEST

SCIENTIFIC-RESEARCH CENTER OF PRODUCTS TESTING

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" 12 " 06 2018

TEST REPORT
6044/18-x

**Scientific-Research Center of Products Testing accredited by National Accreditation Agency of
Ukraine on Conformance to Requirements of DSTU ISO/IEC 17025:2006**

Accreditation certificate number 2H635 of 01 June 2017

Total pages 5



2H635
DSTU ISO/IEC 17025

Kyiv-2018



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

Decision on application # 02185-17/18 dd 30.05.2018 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 the written request # 334 dd 30.05.2018

2. Test sample, registration number:

6044. Soya bean meal pellets by DSTU 4230:2003, lot size 6000 t, production date 19.05.2018-30.05.2018, shelf life 4 months

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

3. Recording on sampling: dd 30.05.2018. Sampling was done by the representative of Client

4. Sample receiving date: 01.06.2018

5. Testing period: 04.06.2018 - 12.06.2018

6. Results of test¹: represented in the table

7. Conclusion: In the test sample (registration number 6044) detected 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). The content of genetically modified DNA of soya defined on target sequence GTS 40-3-2 is more than 10.0 %

8. Executive:

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

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Table

RESULTS OF TEST

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

6044. Soya bean meal pellets by DSTU 4230:2003

Organoleptic characteristics

Test item	Requirements	Results of test
Appearance	Cylindrical pellets	Cylindrical pellets
Colour	From light yellow to light brown	From light yellow to light brown
Odour	A typical soy meal odour without any extraneous smell (mustiness, mold, burning, etc.)	A typical soy meal odour without any extraneous smell. The odours of mustiness, mold, burning are absent

¹ The results relate only to the items tested.

The test report shall not be reproduced except in full, without written approval of Scientific Research Center of Products Testing.

Physicochemical parameters

1	2	3	4	5
Pellet diameter, mm	6.0-20.0	7.4	± 0.5	DSTU 4230:2003
Pellet length, mm	10.0-26.0	14.4	± 0.5	DSTU 4230:2003
Undersize (sieve size - 2 mm), %	max 5.0	0.3	± 0.1	DSTU 4230:2003
Moisture and volatile-matter, %		11.8	± 0.1	DSTU 7621:2014
Crude protein calculated as absolutely dry matter, %	min 45.0	52.5	± 0.2	DSTU 4924:2008
Urease activity (pH shift after 30 min)	0.1-0.2	0.18	± 0.01	DSTU 8365:2015
Crude fat calculated as absolutely dry matter, %	max 1.5	1.4	± 0.2	DSTU ISO 734.1:2008
Crude cellulose calculated as absolutely dry matter, %	max 7.0	3.6	± 0.2	GOST 13496.2-91
Acid value of oil, mg KOH/g	max 30.0	23.9	± 0.1	GOST 13496.18-88
Metallic contamination: - particle size up to 2 mm inclusive, %; - particles larger than 2 mm and with sharp edges, %	max 0.01 not allowed	less than 0.001 not detected		DSTU 4600:2006
Ash insoluble in 10 % hydrochloric acid calculated as absolutely dry matter, %	max 1.5	0.05	± 0.01	GOST 13979.6--69
Foreign impurity (stones, glass, soil, etc.), %	not allowed	not detected		DSTU 4230:2003
Contamination pests or presence of traces of contamination, %	not allowed	not detected		GOST 13496.13--75
Peroxide value of oil, % I	max 0.4	0.12	± 0.01	DSTU 4570:2006
Total ash calculated as dry matter, %		6.2	± 0.1	GOST 13979.6--69
Soluble protein, %		39.4	± 0.3	GOST 13979.3-68
Total nutritive value calculated as dry matter, fodder unit	min 1.15	1.16		DSTU 4230:2003

Nitrates

1	2	3	4	5
Nitrate, mg/kg	max 450	5.1	± 0.2	GOST 13496.19-93

Nitrites

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

Heavy metals

1	2	3	4	5
Lead, mg/kg	max 1.0	not detected (<0.1)		MBB 77-12-97
Cadmium, mg/kg	max 0.1	not detected (<0.02)		MBB 77-12-97

Міністерство розвитку економіки, торгівлі та промисловості
ДП "Укрметроtestстандарт"
УкрПРОДТЕСТ
НАУКОВО-ДОСЛІДНИЙ ЦЕНТР
ВІПРОБУВАНЬ ПРОДУКЦІЇ (17/2)

1	2	3	4	5
Arsenic, mg/kg	max 0.3	not detected (< 0.08)		GOST 26930-86
Mercury, mg/kg	max 0.02	not detected (< 0.001)		MBB 081/12-0097-03
Copper, mg/kg	max 10.0	9.6	± 3.8	MBB 77-12-97
Zinc, mg/kg	max 50.0	45.0	± 13.6	MBB 77-12-97

Mycotoxins

1	2	3	4	5
Aflatoxin B ₁ , mg/kg	max 0.005	not detected (< 0.001)		MBB 081/12-0189-05
Zearalenone, mg/kg	max 1.0	not detected (< 0.016)		MBB 081/12-0256-05
T-2 toxin, mg/kg	max 0.1	not detected (< 0.014)		MBB 081/12-0254-05
Deoxynivalenol, mg/kg		not detected (< 0.2)		MBB 081/12-0255-05
Ochratoxin A, mg/kg		not detected (< 0.001)		MBB 17/46-09

Pesticide residue

1	2	3	4	5
Gamma-HCH, mg/kg	max 0.5	not detected (< 0.001)		EN 1528-4:1997
DDT and its metabolites, mg/kg	max 0.02	not detected (< 0.001)		EN 1528-4:1997
Aldrine, mg/kg	not allowed	not detected (< 0.001)		EN 1528-4:1997
Dieldrin, mg/kg	not allowed	not detected (< 0.001)		EN 1528-4:1997
Heptachlor, mg/kg	not allowed	not detected (< 0.001)		EN 1528-4:1997
4,4-DDT, mg/kg	max 0.02	not detected (< 0.001)		EN 1528-4:1997
4,4-DDE, mg/kg	max 0.02	not detected (< 0.001)		EN 1528-4:1997
4,4-DDD, mg/kg	max 0.02	not detected (< 0.001)		EN 1528-4:1997
Alpha-HCH, mg/kg	max 0.5	not detected (< 0.001)		EN 1528-4:1997
Hexachlorobenzene, mg/kg	not allowed	not detected (< 0.001)		EN 1528-4:1997
Beta-HCH, mg/kg	max 0.5	not detected (< 0.001)		EN 1528-4:1997
Endrine, mg/kg	not allowed	not detected (< 0.001)		EN 1528-4:1997
Endryn aldehyde, mg/kg	not allowed	not detected (< 0.001)		EN 1528-4:1997
Endosulfan-1, mg/kg		not detected (< 0.001)		EN 1528-4:1997
Endosulfan-2, mg/kg		not detected (< 0.001)		EN 1528-4:1997
HCH (sum), mg/kg	max 0.5	not detected (< 0.001)		EN 1528-4:1997
Heptachlor epoxide, mg/kg	not allowed	not detected (< 0.001)		EN 1528-4:1997

Organic solvents

1	2	3	4	5
Residue solvent (benzine, petroleum solvent), %	max 0.1	0.0007	± 0.0001	DSTU ISO 9289:2008

Microbiological analysis

1	2	3	4	5
Yeast, CFU/g		less than 10		DSTU ISO 7954:2006
Pathogens, in particular bacteria of the genus <i>Salmonella</i> , in 25 g		not detected		DSTU EN 12824:2004
Enteropathogenic strains of <i>E. coli</i> , in 1 g		not detected		Instruction # 1135-73
Toxin-producing anaerobes, in 1 g		not detected		GOST 29185-91

Radiological characteristics*

1	2	3	4	5
Specific activity of caesium-137, Bq/kg	max 50	less than 2.73		MBB 07-119:2011
Specific activity of strontium-90, Bq/kg	max 30	less than 10.3		MBB dd 10.08.98

* The requirements are given according to GN 6.6.1.1-130-2006 "Permissible levels content of radionuclides ^{137}Cs and ^{90}Sr in foodstuff and drinking water" dd 17.07.2006

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
Detected target sequence of gene 5-enolpyruvylshikimate-3-phosphate synthase (EPSPS) from <i>Agrobacterium tumefaciens</i> (CP4)	MBB 081/12-0751-11
Not detected target sequence of gene phosphinotricin N-acetyltransferase from <i>Streptomyces viridochromogenes</i> (PAT)	MBB 081/12-0751-11
Not detected target sequence of gene phosphinotricin N-acetyltransferase from <i>Streptomyces hygroscopicus</i> (BAR)	MBB 081/12-0751-11
The content of genetically modified DNA soya, defined on target sequence GTS 40-3-2, is more than 10.0 %	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 amplifier CFX96 ("Bio-Rad", USA);
- determination of cadmium, lead, 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 mercury content was carried by atomic absorption spectrophotometry with the generation of cold steam on atomic absorption spectrophotometer C-115M1 (PA "Electron", Ukraine) with the prefix "Mercury-C" (PA "Electron", Ukraine);
- 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 the specific activity of radionuclides was carried by scintillation spectrometry method on gamma beta scale spectrometer complex CEG-CEB-01 (RPE "Atom Komplex Prylad", Kiev, Ukraine).

Punct de lucru:

Prio Extractie

Str. Lisabona nr.5,

Lehliu Gara, jud. Calarasi

Noi, Prio Extractie S.R.L., punct de lucru, Str. Lisabona nr.5, Lehliu Gara, jud. Calarasi, cu nr. Inregistrare la registrul comertului J40/12428/2016 din 21.09.2016, declaram pe propria raspundere ca produsul faina soia(boabe) cu invelisuri indepartate obtinut din organisme modificate genetic, cod identificare MON 89788, MON 40-3-2, MON 87701, livrat in 12.07.2018, in cantitate de 24.94 t, magazia A6, catre ~~XXXXXXXXXX~~, auto nr.: KAY607/CAV967, este in conformitate cu prevederile contractului si corespunde parametrilor calitativi din prezentul buletin de analiza, este in conformitate cu legislatia sanitara, sanitar-veterinara si pentru siguranta alimentelor in vigoare, valabilitate 3 luni.

Parametri / Unitate Parameter /Units	Metoda Method	Rezultate Results	Limite / Limits	
			Min.	Max.
Continut ulei/ Oil content (%)	NIR Method	1.5	-	3.0
Umiditate/ Umidity(%)	NIR Method	12.21	-	12.5
Proteina/ Protein (%)	NIR Method	47.61	-	-
Fibra/Fiber(%)	NIR Method	4.57	-	7.0

Laborator de Control si Calitate

Quality Control Laboratory

