

**Ukraine**  
**System of quality ( ДСТУ ISO/IEC 17025 )**  
**Odessa State Border control and toxicological laboratory**

65016, Odessa, Ukraine, Vanni 5-11



**PROTOCOL № 5910**  
**of samples testing**  
**On the 04<sup>th</sup> of December, 2018**

**Customer, address, Tel/Fax:**

**Production name: Pumpkin seeds, Pumpkin Seeds kernels**

**Date of production: Crop 2018**

**Production consignment size/Lot: 21 200 kg Lot: 18-92**

**Transport: SK379LV/SK825LR**

**Statement of selection: numberless of December, 03, 2018**

**Producing company:**

**Date of receiving the samples for the researches December, 03, 2018**

**Period of the researches: December, 03, 2018 - December, 04, 2018**

**Object of the researches is the samples testing for meeting the requirements of GOST 12046 - 85 "Seeds"**

**MER 5061-89, «Allowable levels of radioactive nuclides Cs-137 та Sr-90 in foodstuff and drinking water» (GN 6.6.1.1-130-2006).**

**Results of the researches:**

№	Titles of the researches items and figures	Factual value	Allowable level	Documents and researching methods	Deviation
1	2	3	4	5	6
1.	Humidity, %	4.8	<7,0	GOST 16833-71	0,05 %
2.	Admixture, %	not found	<0,1	GOST 16833-71	-
3.	Sulphur dioxide (E220), %	<0,0005	< 0,005	DSTU ISO 5523:2007	
<b>Aflatoxins content, mg/kg</b>					
4.	Aflatoxin $B_1$	< 0,0005*	< 0,005	MV 4082-86	
5.	Aflatoxin $B_2$	< 0,0005*	unregulated	MV 4082-86	
6.	Aflatoxin $G_1$	< 0,0005*	unregulated	MV 4082-86	
7.	Aflatoxin $G_2$	< 0,0005*	unregulated	MV 4082-86	
<b>Pesticides residual quantity content, mg/kg</b>					
8.	$\gamma$ -HCH	< 0,001*	unregulated	DSTU EN 1528-1:2003	
9.	DDT	< 0,007*	unregulated		
10.	Aldrin	< 0,001*	not allowable		
11.	Geptachlorine	< 0,001*	not allowable		
<b>Toxic elements content, mg/kg</b>					
12.	Lead	<0,003*	<0,5	GOST 30178-96	
13.	Cadmium	< 0,005*	<0,1	GOST 30178-96	
14.	Arsenic	< 0,08*	<0,3	GOST 30178-96	
15.	Copper	1,6	< 15,0	GOST 30178-96	0.08 %
16.	Mercury	< 0,003*	<0,05	DSTU ISO 6637-2001	
<b>Radioactivity, Bq/kg</b>					
17.	Cesium-137	<2,79*	<70	MI-12-08-99	40%
18.	Strontium-90	< 4,83*	< 10	MI-12-08-99	40%
<b>Microbiological indicators</b>					
19.	Anaerobic sulfite-reductors, 1,0	not found	not allowable	GOST 29185-91	
20.	Clostridium perfringens, 1,0	not found	not allowable	GOST 10444.9-75	

\* -Method Detection Limit (MDL)

**Conclusion: The sample meets the requirements of: GOST 16833-71, MBR 5061- 89, GN 6.6.1.1-130-2006.**

**The researchers:**

Tyakov V.N.

Norchenko A.M.