

Director  
Metrology service Ltd.



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**PROFICIENCY TESTING PT.UA.3.1.2017**  
**VEGETABLE OIL (QUALITY)**  
**PROFICIENCY TESTING PROGRAMME – ROUND 3 (ENG)**

Kyiv-2018

## 1. INTRODUCTION

Given the key role of reliable test results that are needed during world vegetable oil trade and agriculture in general, requirements for the competence of laboratories that perform such tests should be confirmed.

The purpose of proficiency testing in vegetable oil testing is to determine the characteristics of the operation (as described in ISO/IEC 17043 [1]) and improve the reliability of test results.

This proficiency testing involves the use of inter-laboratory comparisons to confirm the performance of individual laboratories' abilities and/or identify areas of improvement.

## 2. DESCRIPTION

### 2.1. PARTICIPATION

2.1.1. Minimum methods for participation. Any organization, providing testing by at least one of methods in clause 2.2 may participate in this voluntary Program.

2.1.2. Participant may provide results for all the methods according to clause 2.2.

2.1.3. Metrology service Ltd. assigns a unique identification number to each participant that is confidential and reported only to this participant.

2.1.4. Participation fee for participants from Ukraine is 4 200.00 UAH without paying VAT. Participation fee for participants from outside of Ukraine is 200.00 USD.

### 2.2. METHODS

Participants can provide test results for the following methods:

	Parameter	Method	Note
1.	Moisture and volatile matter content, %	ISO 662:2016/ ДСТУ ISO 662:2004/ ДСТУ 4603:2006	According ДСТУ 4603:2006 use p.8
2.	Moisture and volatile matter content, %	AOCS Official Method Ca 2c-25:2017	
3.	Insoluble (oil-free) impurities content, %	ISO 663:2017/ ДСТУ ISO 663:2003/ ДСТУ 5063:2008	
4.	Insoluble impurities content, %	AOCS Official Method Ca 3a-46:2017	
5.	Acid value, mg KOH/g	ISO 660:2009/ ДСТУ ISO 660:2009/ ДСТУ 4350:2004	
6.	Free fatty acids, %	AOCS Official Method Ca 5a-40:2017	
7.	Peroxide value, meq of active oxygen/kg	ISO 3960:2017/ ДСТУ ISO 3960:2001	
8.	Peroxide value, meq peroxide/kg	AOCS Official Method Cd 8b-90:2017	
9.	Peroxide value, ½ O mmol/kg	ДСТУ 4570:2006	
10.	Iodine value, g/100g	ISO 3961:2013/ ДСТУ ISO 3961:2004	According ДСТУ 4569:2006 use Wjjs method

	Parameter	Method	Note
		ДСТУ 4569:2006	
11.	Iodine value, g/100g	AOCS Official Method Cd 1d-92:2017	
12.	Anisidine value	ISO 6885:2016/ ДСТУ ISO 6885:2002	
13.	Anisidine value	AOCS Official Method Cd 18-90:2017	
14.	Saponification value, mg KOH/g	ISO 3657:2013 ДСТУ ISO 3657:2004 ДСТУ 4604:2006	
15.	Saponification value, mg KOH/g	AOCS Official Method Cd 3-25:2017	
16.	Unsaponifiable matter, %	ISO 18609:2000/ ДСТУ ISO 18609:2004/	Methods using hexane or light petroleum ether extraction
17.	Unsaponifiable matter, %	ISO 3596:2006/ ДСТУ ISO 3596:2004/ ДСТУ 6050:2008	Methods using diethyl ether extraction In case use ДСТУ 6050:2008 - without amendment on the free fatty acids
18.	Unsaponifiable matter, %	AOCS Official Method Ca 6a-40:2017	Methods using light petroleum ether extraction
19.	Conventional mass per volume at 20°C, g/ml	ISO 6883:2017/ ДСТУ ISO 6883:2004	
20.	Conventional mass per volume at 20°C, g/ml	AOCS Official Method Cc 10c-95:2017	
21.	Density at 20°C, g/cm <sup>3</sup>	ДСТУ 4633:2006	
22.	Refractive index	ISO 6320:2017/ ДСТУ ISO 6320:2001	
23.	Refractive index	AOCS Official Method Cc-7-25:2017	
24.	Lovibond colour - Red ( 5,25 inch cell), Lovibond units	ISO 15305:1998	
25.	Lovibond colour - Red ( 5,25 inch cell), Lovibond units	AOCS Official Method Cc-13e-92:2017	
26.	Color number on a scale of iodine standard solutions, mg I <sub>2</sub> in 100 cm <sup>3</sup>	ДСТУ 4568:2006	
27.	Flash point at closed cup, °C	AOCS Official Method Cc-9b-55:2017	
28.	Flash point at closed cup, °C	ДСТУ 4455:2005	
29.	Phosphorus content, mg/kg (ppm)	ISO 10540-1:2003	
30.	Phosphorus content, %	AOCS Official Method Ca-12a-02:2017	
31.	Mass fraction of phosphorus-containing substances in recalculation to stearoolelecithin	ДСТУ 7082:2009	
32.	Dynamic viscosity at 20°C, mPa*s	Laboratory choice	

## 2.3. SAMPLES

Metrology service Ltd. is using a validated procedure and appropriate technical experts and contractors for the selection, production, homogenization and division designs that is satisfactory for the purposes of this program. Tests, that are required to prove homogeneity and stability of samples are performed by competent contractors according to [3-7].

Metrology service Ltd. will send appropriately identified and packaged sample together with task sheet form for testing and reporting results via courier delivery service of Nova Poshta LLC or other delivery service chosen by participant.

**Sunflower oil is used as a sample in round 3 in an amount of approximately 1000 ml for each participant.**

## 2.4. SCHEME AND SCHEDULE

2.4.1. This proficiency testing program is a simultaneous participation schemes according to A.3 of appendix A ISO\IEC 17043[1]. Selected samples, prepared according to clause 2.3, from a source of material being distributed simultaneously to participants for concurrent testing. After completion of the testing, the results are returned to Metrology Service Ltd. Task sheet form for testing and reporting results is distributed with the sample according to clause 2.3. Metrology use statistical methods to analyse results and provide report according to clause.2.5.

2.4.2. Round 3 schedule.

Participants registration	<b>till 13-00 EET 31.05.2019</b>
Sample shipment	<b>03.06.2019</b>
Reporting results for participants	<b>till 13-00 EET 20.06.2019</b>
Report publication	<b>Till 01.07.2019</b>

## 2.5. REPORT AND PROCESSING RESULTS

2.5.1. Metrology service Ltd. processes and analyses results according to [1-7].

2.5.2. Metrology service Ltd. publishes the Proficiency testing report according to [1,2].

2.5.3. Proficiency testing report will be published in two languages – English and Ukrainian. Basic (reference) language is English.

## 3. PARTICIPANT INFORMATION

Participants must provide e-mail request for participation (Annex 1 to the Program) in accordance with the schedule Round (p.2.4.2.).

## 4. PROVIDER CONTACTS AND PROGRAM MANAGER

Metrology Service Ltd., Ukraine, 03022, Kyiv, 18 Lomonosova str., office 704.

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## **5. NORMATIVE REFERENCE**

1. ISO/IEC 17043:2010 Conformity assessment -- General requirements for proficiency testing
2. ISO 13528:2015 Statistical methods for use in proficiency testing by interlaboratory comparisons
3. FOOD ANALYSIS PERFORMANCE ASSESSMENT SCHEME (FAPAS). Protocol for the organization and analysis of data, sixth edition, 2002
4. Fearn, T. and Thompson, M, A new test for 'sufficient homogeneity', Analyst, 2001, 126, 1414-1417
5. ISO Guide 35:2017 Reference materials -- Guidance for characterization and assessment of homogeneity and stability
6. ILAC Discussion Paper on Homogeneity and Stability Testing, April 2008.
7. ISO 17034:2016 General requirements for the competence of reference material producers

**Addition 1. Application form:**

<b>PT Program Name:</b>	PROFICIENCY TESTING PT.UA.3.1.2017 VEGETABLE OIL (QUALITY) – ROUND 3 (ENG)
<b>The full name of the laboratory</b>	
<b>Full legal entity name:</b>	
<b>Address:</b>	
<b>Bank details:</b>	
<b>Name of the person signing the Contract and on the basis of which:</b>	
<b>Delivery address of the sample</b>	
<b>Name of the responsible person from the Participant:</b>	
<b>Contact telephone number (if possible, mobile) and email address of the responsible person from the Participant:</b>	
<b>Certificate delivery address</b>	
<b>Date of application:</b>	

\* All fields are required.