

Director
Metrology service Ltd.



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PROFICIENCY TESTING PT.UA.1.1.2016
WHEAT ANALYSIS (QUALITY)
PROFICIENCY TESTING PROGRAMME – ROUND 4

Kyiv-2019

1. INTRODUCTION

Given the key role of reliable test results that are needed during crops trade, requirements for the competence of laboratories that perform such tests should be confirmed.

The purpose of proficiency testing in wheat testing is to determine the characteristics of the operation (as described in ISO/IEC 17043:2010[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.

The functioning management system Metrology Service Ltd. (further - Provider) complies with ISO/IEC 17043[1] requirements and covers all aspects of proficiency testing (further - PT) for all proficiency tests.

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 3 000.00 UAH without paying VAT. Participation fee for participants from outside of Ukraine is 150.00 USD.

2.1.5 Participation fee for participants from Ukraine, who are going to test according ISO 27971:2015 is added 1000.00 UAH without paying VAT. Participation fee for participants from outside of Ukraine is added 50.00 USD.

2.1.6. We are expecting from 20 to 40 Participants.

2.1.7. Each participant has a unique identification number what are assigned according to Application form for every round every Programme. This identification number is confidential and can be published only by the permission of the Participant. The Participant should write this unique identification number at Task sheet form for testing and reporting results for identification. If Provider is suspecting collusion or falsification, it applies own procedure for the work with unsatisfied results.

2.2. METHODS

Participants can provide test results for the following methods:

	Parameter	Method	Note
1.	Broken grains, %	EN 15587:2008+A1:2013	
2.	Grain impurities, %	EN 15587:2008+A1:2013	
3.	Sprouted grains, %	EN 15587:2008+A1:2013	
4.	Miscellaneous impurities, %	EN 15587:2008+A1:2013	
5.	Damaged wheat grains,%	ISO 7970:2011	
6.	Other cereals,%	ISO 7970:2011	
7.	Extraneous matter,%	ISO 7970:2011	
8.	Bulk density, kg/hl	ISO 7971-3:2009	
9.	Moisture content, %	ISO 712:2009/ДСТУ ISO 712:2015	
10.	Moisture content, %	ISO 12099:2017	

	Parameter	Method	Note
11.	Protein content, %	ISO 20483:2013/ДСТУ ISO 20483:2016	Expressed on dry matter, factor for converting nitrogen content to protein content - 5.7.
12.	Crude protein content, %	ISO 16634-2:2016	Expressed on dry matter, factor for converting nitrogen content to protein content - 5.7
13.	Protein content, %	ISO 12099:2017	
14.	Wet gluten content, %	ISO 21415-1:2006/ДСТУ ISO 21415-1:2009	
15.	Wet gluten content, %	ISO 21415-2:2015/ДСТУ ISO 21415-2:2009	
16.	Gluten Index	ISO 21415-2:2015/ДСТУ ISO 21415-2:2009	
17.	Falling number, s	ISO 3093:2009/ДСТУ ISO 3093:2009	
	<i>Alveograph properties of dough:</i>		
18.	<i>Deformation energy, W</i>	ISO 27971:2015	
19.	<i>Maximum pressure parameter, P</i>	ISO 27971:2015	
20.	<i>Mean abscissa at rupture, L</i>	ISO 27971:2015	
21.	<i>Index of swelling, G</i>	ISO 27971:2015	
22.	<i>Curve configuration ratio, P/L</i>	ISO 27971:2015	
23.	<i>Milling results on the Chopin Dubois CD1 mill. Extraction Rate, %</i>	ISO 27971:2015	As a percentage of dry mass, of flour extracted from the cleaned wheat
24.	Dockage, %	USDA (Book II - Grading Procedures Chapter 13 – Wheat, 2017)	
25.	Shrunken and broken kernels, %	USDA (Book II - Grading Procedures Chapter 13 – Wheat, 2017)	
26.	Damaged kernels, %	USDA (Book II - Grading Procedures Chapter 13 – Wheat, 2017)	
27.	Foreign material, %	USDA (Book II - Grading Procedures Chapter 13 – Wheat, 2017)	
28.	Test weight, lb/bu	USDA (Grain Grading Procedures, Chapter 1 - General Information July 30, 2013)	
29.	Foreign impurities, %	ГОСТ 30483-97/ДСТУ 3768:2010	
30.	Grain impurities, %	ГОСТ 30483-97/ДСТУ 3768:2010	
31.	Grains damaged by Bug, %	ГОСТ 30483-97/ДСТУ 3768:2010	
32.	Bulk density, kg/hl	ДСТУ 4234:2003	
33.	Bulk density, g/l	ГОСТ 10840-64	
34.	Moisture content, %	ГОСТ 13586.5-93	
35.	Moisture content, %	ДСТУ 4117:2007	
36.	Protein content, %	ГОСТ 10846-91	Expressed on dry matter, factor for converting nitrogen content to protein content - 5.7.
37.	Protein content, %	ДСТУ 4117:2007	
38.	Wet gluten content, %	ГОСТ 13586.1-68	
39.	Index of gluten deformation	ГОСТ 13586.1-68	
40.	Falling number, s	ГОСТ 27676-88	
41.	Total vitreousness of grain, %	ГОСТ 10987-76	
42.	Mass of 1000 grains as received, g	ISO 520:2010	

The Information for methods of preparation of samples and way of testing Participant should use from methods according to clause 2.2.

2.3. SAMPLES

Metrology service Ltd. is using contractors for the selection, production, homogenization and division designs that are satisfactory for the purposes of this programme. The names and addresses of contractors can be given by request after publishing the final report.

Provider uses methods according to clause 2.2. for validation of homogeneity and stability. The quantity of methods can be decreased according to the decision of Provider's technical experts.

Tests, that are required to prove homogeneity and stability of samples are performed by competent contractors according to [2-6]. Provider uses a validated procedure of management system Metrology service Ltd for the samples' selection, production, division, checking of the quality and storage.

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. Shipping expenses for participants from Ukraine are included in participation price. Shipping expenses outside of Ukraine are not included in the price of participation.

Wheat (*Triticum aestivum*) is used as a sample in round 4 in an amount of 3 kg 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. Participant should use only this form for reporting.

Metrology Service Ltd use statistical methods to analyze results and provide report according to clause. 2.5.

2.4.2. Round 4 schedule.

Participants registration	till 13-00 EET 01.11.2019
Sample shipment	05.11.2019
Reporting results for participants	till 13-00 EET 22.11.2019
Report publication	13.12.2019

2.5. REPORT AND PROCESSING RESULTS

2.5.1. Metrology service Ltd. processes and analyses results according to [1-6].

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

2.5.3. Provider 'll express Participant's results for quantitative methods as traditional z-scores.

2.5.4. The assigned value for each analyte was calculated as the robust mean of the trial data using Huber H15 method

2.5.3. Proficiency testing report will be published in two languages – English and Ukrainian. Basic (reference) language is English. Both version of the report 'll be published at internet <http://www.metrologyservice.com.ua>

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 st., 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.

Addition 1. Application form:

PT Program Name:	PT.UA.1.1.2016 WHEAT ANALYSIS (QUALITY) – ROUND 4
The full name of the laboratory	
Full legal entity name:	
Address:	
Bank details:	
Name of the person signing the Contract and on the basis of which:	
Delivery address of the sample	
Name of the responsible person from the Participant:	
Contact telephone number (if possible, mobile) and email address of the responsible person from the Participant:	
Certificate delivery address	
Date of application:	

* All fields are required.