

Director
Metrology service Ltd.



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

Kyiv-2018

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 [1-2]) 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 17043:2010[1-2] 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.

2.2. 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	
11.	Protein content, %	ISO 20483:2013/ ДСТУ ISO 20483:2016	Expressed on dry matter, factor for converting nitrogen content to protein

	Parameter	Method	Note
			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

	Parameter	Method	Note
			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	

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.

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. Metrology use statistical methods to analyse results and provide report according to clause.2.5.

2.4.2. Round 3 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].

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

2.5.4. For quantitative methods Provider will express Participant's results as traditional z-scores

3. PARTICIPANT INFORMATION

Participants must provide the following information by **e-mail in any form**:

1. Full name (English and/or Ukrainian), Bank details, address, registration number, detail of person, who will sign a contract;
2. Full name and address of laboratory (testing facility) if it is not equal to clause 1;
3. Address of shipment of samples or Nova Poshta LLC department number (with the choice of shipment type);
4. Participant contact person full name;
5. Contact telephone number (e.g. mobile) and e-mail address of the participant contact person.

4. PROVIDER CONTACTS AND PROGRAM MANAGER

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

Nataliia Bozhko

e-mail: smetrology@gmail.com

tel.: +38(099)305-79-78

5. NORMATIVE REFERENCE

1. ISO/IEC 17043:2010 Conformity assessment -- General requirements for proficiency testing.
2. ДСТУ EN ISO\IEC 17043:2017 Оцінка відповідності. Загальні вимоги до перевірки професійного рівня.
3. ISO 13528:2015 Statistical methods for use in proficiency testing by interlaboratory comparisons.
4. FOOD ANALYSIS PERFORMANCE ASSESSMENT SCHEME (FAPAS). Protocol for the organization and analysis of data, sixth edition, 2002.
5. Fearn, T. and Thompson, M, A new test for 'sufficient homogeneity', Analyst, 2001, 126, 1414-1417.
6. ISO Guide 35:2017 Reference materials -- General and statistical principles for certification.
7. ILAC Discussion Paper on Homogeneity and Stability Testing, April 2008.
8. ISO 17.034:2016 General requirements for the competence of reference material producers