

Directive

9180.84

4/23/2014

NATIONAL FALLING NUMBER QUALITY ASSURANCE PROGRAM

1. PURPOSE

This Directive establishes a National Falling Number (FN) Quality Assurance Program and outlines procedures for participation by Federal Grain Inspection Service (FGIS) Field Offices and Official Service Providers who perform FN determinations on wheat. This program consists of a check sample program and an inspection monitoring program. The FN Quality Assurance Program will be administered on behalf of FGIS by the Technology and Science Division (TSD).

2. BACKGROUND

In 2012, FGIS performed over 25,000 official FN tests on wheat from 24 service points. Recently, stakeholders have asked GIPSA for a nationwide quality assurance program that includes inspection monitoring.

The goals of this program are to provide information that validates the level of accuracy among service points and, if possible, to improve the accuracy of the official FN testing program. The inspection monitoring program will assess the current performance and provide immediate feedback on accuracy for each service point and specific FN instrument. The feedback will include the TSD result for each sample and whether the results were within range, in the warning zone, or in the action zone.

Initially, TSD will collect and analyze one file sample per week from each service point and instrument. After acquiring sufficient data on sample volumes, the sample rate for each service point may be adjusted.

The check sample program will provide a system-wide assessment of the accuracy on a biannual basis and will help identify specific instruments or operators that may be providing inaccurate results. The check sample program will also allow TSD to investigate the level of accuracy among service points on samples with FN values that may not be available through the inspection monitoring program.

3. PROCEDURES

Check Sample Program

There will be two annual check sample distributions for all 24 service points and instruments. TSD will send blind samples (both ground and unground) with a cover letter giving specific instructions to follow for testing the samples and reporting the results. A summary report will be provided to each service point following each distribution.

Inspection Monitoring Program

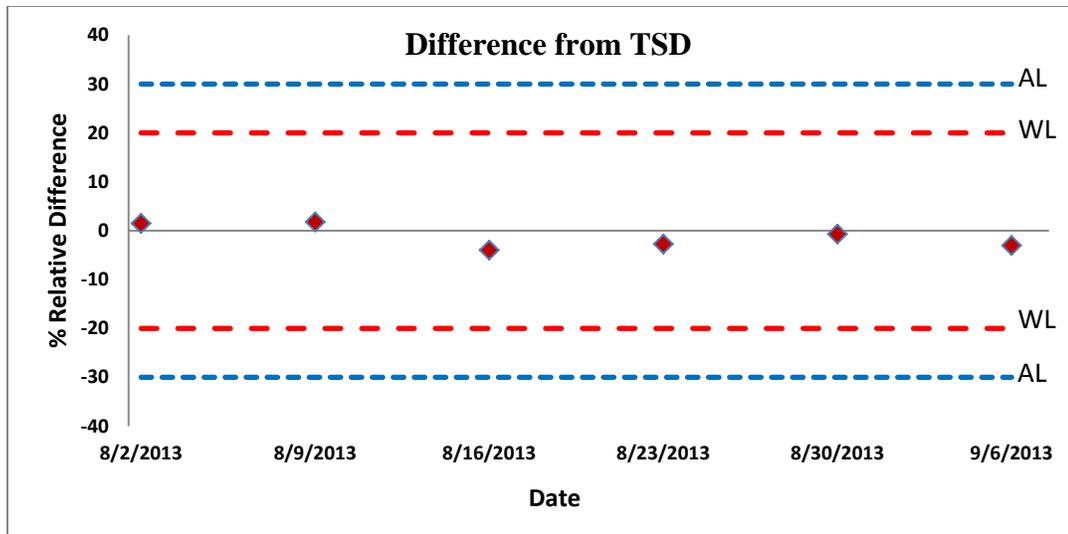
One sample per week must be submitted from each service point and instrument that provided official results with a completed Falling Number Monitoring Sheet (Attachment 1). The work week is Sunday through Saturday. For the week ending on Saturday, the samples should be mailed to TSD on the following Monday, but no later than Wednesday. For samples to be run by Falling Number, service points will need to collect an additional 650 grams quantity of wheat before the removal of dockage. Service points should submit at least 650 grams (before the removal of dockage), seal the sample in a 6-mil plastic bag, and mark the sample number on each bag using an indelible marker. All nonfederal offices (i.e., delegated / designated states and official agencies) should use UPS 2nd Day Air delivery and charge shipping costs to TSD.

Please contact TSD to obtain the shipping charge code. All federal offices should apply shipping and handling charges to their 580 (AMA) account using their own shipping charge code for UPS 2nd Day Air delivery. Mail samples to:

Falling Number Monitoring Program
USDA, GIPSA, NGC
Technology and Science Division
10383 N. Ambassador Drive
Kansas City, MO 64153-1394

The results will be communicated to each service point using the following example spreadsheet and chart.

All State Grain Inspection Falling Number Instrument Model 1700 Serial Number 1234567							
Sample ID	Date		TSD	All State	Difference	Relative Difference	% Relative Difference
	Inspected	TSD Analysis	FN	FN			
2662	8/02/2013	8/05/2013	335	340	5	0.015	1.493
2994	8/09/2013	8/14/2013	335	341	6	0.018	1.791
3488	8/16/2013	8/21/2013	375	360	-15	-0.040	-4.000
670	8/23/2013	8/26/2013	401	390	-11	-0.027	-2.743
1897	8/30/2013	9/02/2013	433	430	-3	-0.007	-0.693
3353	9/06/2013	9/08/2013	429	416	-13	-0.030	-3.030



- The red lines represent the 95 percent confidence range and serve as the warning limits (WL). Service points should examine the result with current and historical results to determine if this result can be accepted. No more than 1 out of every 20 samples should be observed outside the warning limits, but inside the action limits.
- The blue lines represent the 99 percent confidence range and serve as the action limits (AL). Service points should examine the result with current and historical results to determine if this result can be accepted. No more than 1 out of every 100 samples should be observed outside of the action limits. Corrective action should normally be taken when results are outside these limits.
- Each service point is responsible for taking the appropriate corrective action when FN readings are outside of these limits.

5. EFFECTIVE DATE

This Falling Number quality assurance program will commence April 2014.

6. QUESTIONS

Direct any questions regarding this directive to Dr. Tim Norden, Analytical Chemistry Branch, (816) 891-0470; email Tim.D.Norden@usda.gov or to Patrick McCluskey, Policies, Procedures, and Market Analysis Branch, at (816) 659-8403; email Patrick.J.McCluskey@usda.gov.

/s/Robert Lijewski

Robert Lijewski, Director
Field Management Division

Attachment

FALLING NUMBER MONITORING SHEET

FN Unit Serial Number: _____ **Model:** _____

6 Digit FGIS LOCATION CODE: _____

Location Address: _____

WEEKENDING (Saturday) DATE / /

Number of Samples Analyzed this Week _____ (reported for all lots and/or sublots)

Number of Falling Number Units in this Location: _____

Barometric Pressure: _____ **Water Bath temperature (Celsius):** _____

Sample ID	Inspection Date	Wheat Class	FN Result			Moisture Content (%)	FN Result (reported on cert.)	Moisture basis (as reported)
			Right	Left	Average			

Additional comments (if any):

USE THIS FALLING NUMBER FORM ONLY