Laboratory Audit and Accreditation Scheme

Standard

(Revised March 2016)

AIM

1. The **UK Flour Millers** Standard for mill intake laboratories is designed to help establish and maintain common standards of wheat testing at mills. It aims to increase confidence in the accuracy of test results.

SCOPE

2. Those tests required to define the quality of wheat purchased by flour millers. A list of the tests is set out in Annex 1.

LABORATORY MANAGEMENT

3. A competent member of staff shall be responsible for the organisation of the laboratory and its day-to-day operation. There must be a list of those authorised to alter calibrations (clause 9) and adjust records (clause 17).
4. The company must be able to demonstrate commitment to this scheme at senior (e.g. Board) management level through company policy and resource allocation. Laboratory personnel should not be involved in the negotiation of wheat purchasing contracts.

FACILITIES AND EQUIPMENT

5. Laboratory accommodation, test areas, lighting, heating, ventilation equipment and supplies must allow analysis to be performed safely and effectively.
6. Attention must be paid to external factors that would affect test results, such as dust, electromagnetic interference, humidity, mains voltage fluctuations, water pressure, temperature and vibration. If any of these factors could compromise analysis, action must be taken to minimise the risk.
7. Equipment used for testing must be fit for purpose. It should be maintained, serviced and checked according to the manufacturer's instructions or in-house procedures that should cover initial use and action after moving.
8. Each significant item of equipment must be uniquely identified and have a record detailing:
   - servicing and maintenance schedules;
   - any faults and repairs;
   - calibration routines;
   - a copy of the manufacturer's operating instructions, where available;
   - regular performance check results against defined tolerances for the equipment.
9. Alterations to calibrations shall only be carried out by an authorised competent person.
10. A record of approved suppliers (including service providers) critical to the laboratory must be maintained.

STAFFING

11. All staff must be competent in those tests that they are expected to undertake.
12. Records shall be maintained for all staff who carry out analyses, detailing their levels of training, certification where appropriate, and competence in the use of items of equipment and test procedures in the laboratory. Performance must be reviewed regularly.

ANALYTICAL METHODS

13. For the tests set out in Annex 1, the methods of analysis used must be traceable to the reference procedures where indicated.
14. The laboratory must have a record of the methods used, and access to the relationship between the in-house method and the reference method, where indicated, for each test.
15. For each method in Annex 1, a documented system must be established to ensure that the method is being carried out correctly. Where non-conformances are identified, corrective action must be taken and recorded.

RECORDING OF RESULTS

16. The laboratory must have a written procedure for handling of test samples from their entry into the laboratory until despatch of final results.
17. Test results must be recorded correctly and clearly. Changes to records may only be made by authorised persons.
18. All records must be kept for a defined period that allows claims to be dealt with. The laboratory shall maintain documented procedures for handling complaints and disputes over test results. A record shall be maintained of complaints and any follow-up action taken by the laboratory.

PROFICIENCY TESTS

19. For those tests in Annex 1 where proficiency testing is required, each participating laboratory must take part in the **UK Flour Millers** intake proficiency scheme. The scheme protocol forms part of this document.
20. The laboratory's proficiency will be assessed against the industry reference values established as set out in Annex 2.
21. The proficiency scheme requires:
    - that samples are tested at least monthly;
    - that laboratories analyse each sample.

ACCREDITATION

22. If they wish, accreditation will be awarded to laboratories demonstrating compliance with the Intake Standard and meeting minimum performance criteria for 12 sample sets in the intake proficiency scheme.

Demonstration of compliance will be fulfilled by evidence (supplied to **UK Flour Millers**) of one of the following:

- inclusion of the Standard within an independent audit of an accredited quality system, e.g. ISO 9000;
- independent method certification for method-based accreditation, e.g. CLAS or UKAS;
- audit by accredited third party auditors where there is no other recognised accreditation.

Note: because of the nature of the visual examination test, it may not be possible to obtain independent accreditation for this method. In this instance, evidence that there is a written method in place must be included in the documentation sent to **UK Flour Millers**.

The performance criteria for the intake proficiency scheme are set out in Annex 3.

23. A review panel (the panel) consisting of an independent chairman and one representative each from **UK Flour Millers** and CAMPDEN BRI staff will review performance and assess accreditation. The panel will meet twice a year, usually in January (to cover the period January to December of the previous year) and July (to cover the period from July of the previous year to the current June). The panel will also consider management issues relating to the scheme: other representatives may be invited to this part of the meeting. Laboratories will be notified of the date of the panel meeting.

Where a laboratory believes it will fail accreditation criteria it may submit in writing to the panel (addressed to **UK Flour Millers**) at least one week before the meeting, any extenuating circumstances that the panel might take into consideration when assessing their performance and accreditation status.

A laboratory' accreditation to the **UK Flour Millers** scheme will be reviewed in line with its annual audit cycle, i.e. following each annual audit against the **UK Flour Millers** Standard for Intake Laboratories. **UK Flour Millers** certificates of accreditation will be valid for 15 months, in order to allow laboratories three months to clear any non-conformities that may arise at their next audit. Failure to submit evidence of a successfully completed audit within 15 months of the initial/ previous audit may result in the loss of accreditation.

All audits against the **UK Flour Millers** Intake Standard must use the **UK Flour Millers** audit documentation (available from **UK Flour Millers** and can be downloaded from the **UK Flour Millers** website). Following an audit, the completed **UK Flour Millers** documentation must be submitted to the panel. The panel must be advised of any instances of non-compliance relating to the **UK Flour Millers** Intake Standard and the corrective action(s) that will be taken. It is the laboratory's/ company's responsibility to submit the completed audit documentation to **UK Flour Millers**. **UK Flour Millers** will require the following documents:

- **UK Flour Millers** Laboratory Audit Checklist - fully completed by the auditor during the audit.
- **UK Flour Millers** Laboratory Audit Summary Report - fully completed by the auditor during the audit.
- **UK Flour Millers** Laboratory Audit Non-Conformities Report (where non-conformities have been raised) - completed by the auditor during the audit.
- relevant information to confirm that any major non-conformities have been satisfactorily resolved.

24. Laboratories failing to gain accreditation initially or that have their accreditation withdrawn are actively encouraged to take corrective action and to re-apply for accreditation once they fulfil the requirements of clause 22.

There is a right of appeal to the Technical and Regulatory Affairs Committee at **UK Flour Millers**

ANNEX 1

INTAKE TESTS

Test	Proficiency Required	Reference Method
Hagberg Falling Number (HFN)	Yes	BS EN ISO 3093:2009 CCAT Method 06.
Protein	Yes	DD CEN ISO/TS 16634-2:2009 CCAT Method 19
Moisture	Yes	Samples should be tested using equipment referenced to BS EN ISO 712:2009
Specific Weight	No	BS4317 part 32:1996 (omitting reference to the 20 litre instrument)
Screenings	No	BS EN ISO 7971-3:2009 CCAT Method 20
Hardness	No	Most laboratories use an NIR instrument, calibrated to a SKCS system (CCAT Method 22)
Gluten Washing	No	BS EN ISO 21415:2008 CCAT Method 13 and CCAT procedure no. 04p.
Visual examination (for screenings and admixture)	No	CCAT Method 26

ANNEX 2

INDUSTRY REFERENCE VALUES

CAMPDEN BRI will supply one hard and one soft wheat sample (a set) to each participating laboratory at least monthly.

Nominated reference laboratories accredited to perform the reference methods will test each sample in duplicate and submit the results to CAMPDEN BRI within an agreed time.

CAMPDEN BRI will calculate the median values for the reference laboratories for protein and moisture and for all participating laboratories for Hagberg Falling Number. These will then be the agreed reference values for that sample.

ANNEX 3

ACCREDITATION - MINIMUM PROFICIENCY PERFORMANCE

In order to gain accreditation, a laboratory shall meet the following minimum performance standard:

1. In a twelve month period, no more than 8 of a laboratory's results (out of a possible 72) shall differ from the median reference value by more than 2 standard deviations (see Table 1). For laboratories testing only one type of wheat, no more than 5 (out of a possible 36) shall differ from the reference value by more than 2 standard deviations;
2. In a twelve month period, no more than 4 of a laboratory's results on an individual test (out of a possible 24) shall differ from the reference median value by more than 2 standard deviations (see **Error! Reference source not found.**). For laboratories testing only one type of wheat, no more than 3 (out of a possible 12) shall differ from the reference value by more than 2 standard deviations;
3. Laboratories must submit complete results for at least 10 monthly sets in a twelve month period. From the release date of the samples, in the first week of the month, members will be given 2 weeks to return their results to Campden BRI.
4. The difference between a laboratory's test results and the median reference value shall not exceed two standard deviations (per test per sample type) for more than two successive hard or soft samples submitted. Missing samples will not break the sequence.
5. In the event of wrongly submitted results, one submission for correction is allowed in the twelve month accreditation scheme review period without prejudice. More than one submission will be taken into account when assessing a laboratory's eligibility for accreditation.

After gaining accreditation, if a laboratory fails to maintain this level of performance, corrective action will be required and the panel will review its accreditation status. Normally, failure to maintain the minimum level of performance will lead to loss of accredited status. **UK Flour Millers** encourages a laboratory to strive to meet the performance criteria and to re-apply for accreditation.