PROFICIENCY TESTING

- General information -

The proficiency testings and criteria marked with an ♦ are covered by the « accréditation n° 1-2473, comparaisons interlaboratoires, portée disponible sur www.cofrac.fr »/« n° 1-2473 accreditation, interlaboratory comparisons, scope available on www.cofrac.fr » and detailed scope available on www.cecalait.fr.

1) The samples

a. Nature

Our proficiency tests have been created to ensure the **transferability of the performances observed in the proficiency testings to samples routinely analysed** in participating laboratories. As a result, the proposed proficiency testings samples are "true" dairy matrices and are, in addition, as close as possible in terms of composition (chemical, bacterial flora, etc.) to the samples routinely analysed.

b. Number

Our proficiency testings are composed of **5 to 13 samples**. this number was defined, by matrix/criterion, to ensure the relevance of the performance evaluation carried out.
Indeed, this approach firstly allows an evaluation on the measurement range defined by the method(s). It also ensures the relevance of the final performance criteria which are the mean of the deviations (d) and the standard deviation of the deviations (Sd) from the values assigned for the quantitative aptitude testings and the frequency of true responses % for qualitative proficiency testings.

Using these calculated indicators, it is possible to distinguish a specific error on a sample, a level effect of the measured analyte, a systematic error on the measurement range, etc., thus allowing a **true diagnosis** of the considered method. Proficiency testings with a smaller number of samples could not provide as complete information on laboratory performance.

Note: In the case of a proficiency testing (or only a criterion) with less than 7 participants, ACTALIA Cecalait will study the possibility (when possible) of providing participating laboratories with an additional sample corresponding to a reference material (SRM matrix or pure solutions) whose results will be used to select the laboratories as part of the definition of the assigned value.

c. Quality control

In order to guarantee the quality of the performance evaluation which is carried out on the basis of the analytical results of the samples sent, **the sets of samples produced are subject to homogeneity and stability control**:
- The control of homogeneity is **systematically** carried out (on accredited proficiency testings) by analysis in duplicate of a representative sample of the batch (all levels are checked).
- The stability control is **systematically** carried out (on accredited proficiency tests) over the validity period of the samples.

If you receive a broken, damaged and/or repackaged parcel, please contact us immediately to inform you the procedure to follow according to the problem.
The proficiency tests samples shall be processed as the majority of the samples usually tested. The method used must be filled in the corresponding results files.

2) Reception, storage and analysis of the samples

a. Sending of the samples

The samples, an accompanying letter and a delivery note are sent by express carrier according to the terms described for each proficiency testing in the catalogue.

b. Reception and storage

If you receive a broken, damaged and/or repackaged parcel, please contact us immediately to inform you the procedure to follow according to the problem.

The conditions by sample type are as follows:

PHYSICO-CHEMISTRY:

1 - Most samples for physico-chemical analyses contain a preservative. Nevertheless, samples **must be stored at positive cold at 4 (± 2) °C (except for dried products: at room temperature)**

2 **- The samples must not be frozen.**

MICROBIOLOGY:

1 - Upon receipt of the package, the temperature measured in the attached water vial must not exceed 15°C.

2 **-** Most samples for microbiological analyses contain a bacteriostatic preservative. Nevertheless, samples **must be stored at positive cold at 3 (± 2) °C until analysis.**

3 - **The samples must not be frozen**.

4 - **After analysis, the samples must be destroyed applying the procedures described in ISO 7218 standard or according to the current legislation.**

ANTIBIOTICS:

1 - Freeze-drying stabilises the samples, nevertheless they **must be stored at positive cold at 3 (± 2) °C.**

2 - The analyses must be carried out **at the latest within 4 hours after reconstitution with positive cold storage at 3 (± 2) °C**

3 - **Once reconstituted, the samples can be frozen**.

3) Analysis of samples by the laboratories

- The proficiency testing samples must be treated in the same way as the majority of samples usually tested.

- The samples must be analysed **within the time limit specified** in the accompanying letter provided with the samples.

4) Statistical data treatment and emission of individual reports

A statistical treatment of the results is realised for each parameter in accordance with our general provisions (DGTEAQT for quantitative proficiency testings and DGTEAQL for qualitative proficiency testings):

a. Quantitative analysis method

- Determination of the assigned values per samoles after selection of the laboratories on:
  - the analysis of the samples in the required delay
  - the sélection on the applied method and, where applicable, the recovery on pure solutions or on control samples
- For each sample, calculation of the mean of the laboratory's results (or taking into account of the unique value if no analyses in duplicate) after transformation or not (Log for the microbiological quantitative PT) and of the deviation between the mean calculated by the laboratory and the assigned value.
- For each laboratory and for all the samples:
  - calculuation of the mean deviation d (assigned value - result of the laboratory), and calculation of the standard deviation of deviation of the assigned value Sd.
  - Representation of the laboratory performances positioning on a conformity target
- Evaluation of the laboratory's performance by comparing its d and Sd values in relation to the limits and the positioning on a conformity target.

At the end of the statistical treatment, an individual report is emitted containing the evaluation of the laboratory's performance (d, Sd and conformity target) with an emoticon ☺ ☹

Various elements are also included in the individual report **for information only**:

- An evaluation of the laboratory's repeatability.
- An evaluation of the laboratory's accuracy sample per sample, as a Z score form (except for infrared proficiency testing).
- An evaluation of the calibration for the methods requiring calibration (milk lipolysis, raw milk amido black, infrared method, somatic cells and urea only)
- An evaluation of the linearity (raw milk amido black and infrared method only).
- An evaluation of the intercorrections among channels (infrared method only).

An instruction to understand the proficiency testing report and the exploitation of the results is available via a web link (instruction for the physico-chemistry or quantitative microbiology proficiency testing report) on the report or on the website www.cecalait.fr.

b. Qualitative analysis method

- For each sample, the laboratory's result is compared to the reference value
- For each laboratory, calculation of the accuracy answers frequency for all of the samples.

At the end of the statistical treatment, an individual report is emitted containing the evaluation of the laboratory's performance (d, Sd and conformity target) with an emoticon ☺ ☹

Various elements are also included in the individual report **for information only**:

- Information concerning the methods used by all the participating laboratories
- Table of samples characteristics
- Results of all the participating laboratories (table of laboratories results (positive/negative)
- Histogram representing the correct answers frequency.

An instruction to understand the proficiency testing report and the exploitation of the results is available via a web link (instruction for the physico-chemistry or quantitative microbiology proficiency testing report) on the report or on the website www.cecalait.fr.

c. Particular case for the phosphatasic activity proficiency testing

The individual report sent to the participating laboratorys contains a qualitative part and a quantitative part.

- For laboratories having transmitted only quantitative results, qualitative results will be generated on the basis of standardised tolerances (separate for milk and cheese)
- For laboratories having transmitted only qualitative results, the “quantitative” part will remain blank.

d. Particular case for the antibiotics proficiency testing

For these proficiency testings, the laboratory's performance is not formally evaluated in the individual report sent. Indeed, the laboratory's performance is linked to the detection limits of the method used in this test, it will therefore be up to the laboratory to evaluate its performance with regard to its results and the performance of its method..

5) Communication with the participating laboratories

Communication with participants is done through the member area of the website www.cecalait.fr, accessible using a username and password previously transmitted. The email addresses used for this communication are those registered in the “My contacts” section of the member area of the site.

a. Sending of the samples

Information regarding the sending of samples is given in the email sending the blank results return files.

b. Sending of the technical information

Blank proficiency test results return files are available on the day the samples are sent. Participants are informed of their availability by e-mail to the address declared to ACTALIA Cecalait for this use.

c. Sending of the results by the participants

The results of the proficiency testings must be transmitted on the results return files (made available on the day the samples are sent, see b.), respecting:

- The expected deadline for returning results
- The completeness of the information requested on the form (units, method used and other mandatory fields

d. Sending of the results and pre-results

The reports, in the form of an anonymous PDF version file, and the pre-results (provided as part of the qualitative microbiology proficiency testings) are put on the member area of our website. Participants are informed of their availability by e-mail to the address declared to ACTALIA Cecalait for this use.