DRRR
Deutsches Referenzbüro
für Lebensmittel-Ringversuche
und Referenzmaterialien

Programme of DRRR-Proficiency testing 2013 for EA

Short description of the sensory proficiency testing:

Water quality – determination of the threshold odour number (TON) and the

threshold flavor number (TFN) of drinking water according to EN 1622:2006

It was decided by the Working Group of the Laboratory Committee for Inter-laboratory Comparisons of the European co-operation for Accreditation (EA LC WG ILC) in the 18th meeting held on the 25/26 September 2012 in Warsaw, that the PT-scheme:

Water quality - determination of the TON and the TFN of drinking water according to EN 1622:2006

should be used to assess the comparability of the laboratories of the EA members.

With this proficiency testing scheme national and international drinking water laboratories gets an effective tool to show the legally required sensory performance within an interlaboratory test for the first time. The panel performance will be assessed and compared with other panels. The results of this trial can be used to increase the sensory panel performance by initiating corrective actions.

The drinking water samples provided for this proficiency testing are artificially flavoured to resemble an ordinary flavour taint. For the determination of the TON a reference water is spiked with indole, for the TFN with sodium chloride. The examination principle follows a stepwise dilution of the sample and comparing each dilution with the reference water. The method of comparison is the forced triangle test. To obtain more statistical sound data the assessors are requested to perform three triangle tests for each dilution. Judging three triads correctly demonstrates the sensory competence within an uncertainty interval of 95 %. The threshold number presents the dilution factor of the dilution with the lowest gustatory or odorous flavor ingredients concentration, where the assessor can determine a difference to the reference water within the uncertainty interval of 95 %. The results will be evaluated with the statistical tools of the normal distribution after calculating the logarithm of the results. The assigned value for the TON and TFN represents the consensus value from the participating panels without outlier. According to the DIN EN ISO/IEC 17043:2010 the panels are evaluated by means of the z-score.

The sensory tasting system in this proficiency testing has a maximum of statistical significance of the results at a justifiable testing effort.

A representative picture of the sensory performance of a drinking water laboratory and the laboratories among themselves comes about through regular participation. Furthermore, the success of possibly initiated corrective actions from previous proficiency testing results becomes visible. This leads in the long term not only to a better sensory drinking water investigation, but also to a constantly high drinking water quality for the affected customers in the European Economic Area.