

company profile

of the

DRRR

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Deutsches Referenzbüro für
Lebensmittel-Ringversuche
und Referenzmaterialien GmbH



The accreditation only applies to the scope specified in the annex of the certificate.

German reference office for
food proficiency testing
and reference materials

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DRRR

We, the German reference office for food proficiency testing and reference materials (Deutsches Referenzbüro für Lebensmittel-Ringversuche und Referenzmaterialien GmbH) (DRRR) are a service company for external quality assurance of laboratories of food economy and an inspection body accredited (accredited since 2009) according to ISO 17043:2010. We offer reference materials, proficiency testing, advice on quality matters and quality assurance training. Our German and international customers are companies of the food and dairy economy, state laboratories as well as food and veterinary inspection services. We provide advice to our customers in all questions of validation of chemical, physical, microbiological and sensory analysis or statistical matters. We assist our customers to build up quality management systems according to several international standard like ISO 9001, IFS, DIN EN ISO 17025. On regular basis we run laboratory assessments according 17025.

The DRRR was founded on 01st July 2007 by Dr. Ulrich Leist. More than 100 PT rounds were operated in 2012, more than 30.000 samples were handled in 2012. We held 25 training sessions for our customers, published seven scientific papers and supervised eight diploma theses and one doctoral thesis. We currently provide services to more than 750 customers from all over the world. Five scientists of the DRRR operate the DRRR-PT programs with their staff of PT-assistants.

We work according to:

- ISO Guide 31
- ISO Guide 34
- ISO Guide 35
- DIN EN ISO 17020
- DIN EN ISO 17025
- DIN EN ISO 17043

Furthermore we are representing in various national and international committees and organizations. We are dedicated to promote scientific and practical development of proficiency testing, reference materials and systems of quality assurance and quality management. Our understanding of quality in PT services is the source of the rapid growing of the DRRR since company foundation of more than 30% per year.

Collaborations with the two German metrological institutes:

- **BAM** (Bundesanstalt für Materialforschung, Berlin): We collaborate for development and application of statistics of microbiological proficiency testing.
- **PTB** (Physikalisch-Technische Bundesanstalt, Braunschweig): We work together at the implementation of proficiency testing in South American countries.

Committees:

- **FIL/IDF** (International Dairy Federation): We contribute in the working groups statistics, IR-spectroscopy and sampling as a nominated German delegate.
- **EEE-PT** (Eurolab, Eurachem, EA): Development of rules for proficiency testing and accreditation; We contribute as a nominated German delegate
- **ILAC PT-CG** (International Laboratory Accreditation Cooperation, Consultative Group for Proficiency Testing)
- **Eurolab-Deutschland** We chair the working group “uncertainty of measurement in microbiology”
- **DGQ** (German Society of Quality): We chair the regional working group (Allgäu, countryside in Bavaria)
- **DGSens** and **EUROLAB-D**, we chair the Joint technical working group „sensory“
- **SGF International e.V (international fruit juice committee)** adviser of the national technical working group
- **GDCH (German chemical Society)** Member of the Fruit juice working group.
- **GÖCH (Austrian chemical Society)** adviser of the national technical working group for cosmetics.

Our cooperation partners

To offer best possible services to our customers, we work closely with PT-providers, laboratories and food industry. This guarantees a high scientific know-how and highly secured reference materials. Our most important cooperation partners are:

- **PT-Provider AQS Baden-Württemberg (Germany)** as a partner in the field of drinking water, surface water, waste water, sea water, environment, and as distribution partner for water proficiency testings and reference materials.
- **PT-Provider ielab (Spain)** as a partner in the field of drinking water, surface water, waste water, sea water, environment, ... and as distribution partner for water proficiency testings and reference material.
- **PT-Provider Global Proficiency Ltd. (New Zealand)** as a partner for the joint implementation of proficiency testings and distribution of reference material in the milk sector.
- **PT-Provider Kunststoff-Institut Lüdenscheid (Germany)** as a partner for the joint implementation of proficiency testings and distribution of reference materials in the field of plastic films and commodities.

PT-programs run by DRRR

We offer different PT-programs in the fields of chemical, physical, microbiological and sensory analysis of food, commodities and water/environment.

For the **chemical testing** we offer in the field of food production a variety of different PT's and reference materials to cover primary, intermediate and final food products. The DRRR has special competences in the area of milk and dairy products as well as fruit and fruit juices. Our program also covers the product classes sweets and pasties, food of animal origin, such as meat and egg products as well as animal feed. The evaluation of our proficiency testing programs is based on the highest scientific and statistical level and provides therefore the laboratories with a very precise feedback according to their actual performance. The laboratories can prove their testing

procedures for main parameters like fat, protein and dry matter and side and trace parameters with the DRRR services.

Our **microbiological** proficiency testing rounds are highlighted by the use of vegetative microorganisms for the PT-samples and no lyophilisates. This means that we are exclusively working with living bacteria and yeasts in our real matrices assuring an effective link between the applied microorganism and the matrix. For this reason it is possible for our customers to use their own nutrient media and their internal testing method in a real system of matrix and microorganism. Furthermore we substantially apply “mono germ systems” which means that only 1 germ or bacterium has to be tested in the corresponding proficiency testing. Due to that fact we are able to avoid unrequested negative effects caused by other microorganisms during the analysis and the following evaluation of the results. Moreover, the microbiological field of DRRR is characterized by the market-leading statistical evaluation whereby additional information like measurement uncertainty and different spreading concerning a single laboratory can be displayed.

Our **sensory** proficiency testing programs excel in linking the sensory results to the respective metrological quantities. This new type of proficiency testing structure and design enables the implementation of the triangle test beside the ranking test. Furthermore we have been offered successfully proficiency testings for the threshold value determination from off-flavours in drinking water and from packaging material since 2011. The latest development is a proficiency testing which covers the sensory testing of commodities according to DIN 10955. It allows a comparison and improvement of the performance of the laboratories at national and international level. The extensive DRRR-program offers sensory proficiency testing in the matrices water, yoghurt, flavoured dairy drinks, fruit juice and beer.

Reflecting the great importance of **packaging materials** in the field of food we developed an extensive program as part of an effective quality assurance. The program focuses on migration testing of different plastic films: global migration as well as the specific migration of different substances which are of great importance for the packaging industry can be offered.

Besides our routine programme we also offer you the opportunity to design “**special proficiency testing schemes**” according to your demand. Please let us know if you have requirements.

Organisation of PT's

Our regular PT's start with a timely planning for the organisation and procurement of suited material. To get information about the principal suitability of the material we carry out a homogeneity test according to ISO 13528 at selected indicator parameters. By intensive stability testing at similar samples the basic sample stability will be demonstrated and proven. The stability will be guaranteed for the complete period of the proficiency testing because of special production processes, storage and shipping conditions as well as regular stability tests. Two weeks before the shipment of the samples to the participants they get an announcement letter with information about the general procedure of the PT and the possibility to order additional sample sets.

Depending on the type of PT the participants will have four to six weeks time for testing the samples and submitting the results. At latest three weeks after the deadline of transmitting results the participants will get the report optional as hardcopy by regular mail or as pdf-file by e-mail including a participation certificate with overview of the lab performance.

In most of our PT's the participants can use a method of their choice except in PT's for method validation. If we get enough results analysed with the same method we create an additionally method evaluations to the evaluation of the reference or standard method.

For the submission of the results our participants gets several possibilities. On the one hand they can fill in the result sheets they get together with the samples and the accompanying letter handwritten. On the other hand they can download the result sheets from our website and fill in the results on the computer. The submission of the result sheets could be made by postal delivery, as an e-mail attachment or by fax.

Details and Options of Data-analysis

In order to provide the best possible statistical analyses for chemical PTs the DRRR applies not only one but several different statistical models simultaneously. Chemical PT's are evaluated by four different statistical procedures because it does not exist the ideal statistical procedure as well as the ideal dataset for an evaluation. The following four statistical methods are always used for evaluation:

- sensible statistics
- sensible statistics with outlier elimination (acc. to Grubbs, ISO 5725)
- robust statistics (Hampel-estimator, Q-methode)
- robust statistics (median and MAD)

The first three procedures are always applied assuming a normal distribution of the data set. To measure the quality of the three statistical methods the degree of normal distribution of every data set is checked with the chi-square-test. The statistical method that fits most to the normal distribution behaviour is finally chosen for the calculation of the assigned value and the performance evaluation. If the data set does not show normal distributed behaviour by means of the chi-square-test the median and MAD is chosen for calculation.

The evaluation systems of the DRRR are at first hand scientifically driven. Its principle lay out assures to provide the best statistical evaluation that is possible and necessary. Therefor the DRRR evaluation systems are open for any other statistical evaluation procedure that could provide information to special customer related questions. The DRRR provides the competence to implement new statistical models and procedures. There exist no system limitations like in other PT providers that forbid the spontaneous implementation of new statistical models and procedures.

The performance evaluation is carried out via z'-score as well as z-score and CRD-value.

An additional method depending evaluation is calculated if enough data are transmitted by the participants.

Additionally you will find further information according to proficiency testing and statistics on our website (www.DRRR.de).

Ease of use for participants

- The DRRR systems provides high comfort customer related procedures.
- There are only three steps to do for the customers.
- First is to register, second is to test the PT samples and third is to submit results.
- The customers receive all information, reports and instructions in English.
- The results can be submitted via fax, e-mail or online on our website.
- Technical fon-service is available in English and German by our DRRR-scientific expert team.