The aim of the European Commission Proficiency Tests (EUPTs) is to monitor the performance of the pesticide residue analysis done by EU laboratories, to get information on quality, accuracy and comparability of data reported to European Commission and to provide support to underperforming laboratories.

Close to 160 National Reference laboratories (NRLs) and Official Control laboratories (OCLs) from EU and EFTA member states has participated in the 16 EUPTs from 2007 to 2022. According to Regulation (EC) No 396/2005, Article 28, all laboratories analysing samples for the official control on pesticide residues is obliged to participate in the EUPT organised EURLs.

The EUPTs consist of a qualitative and a quantitative part. The participants are requested to analyse for >150 compounds from a target list and detect and quantify the pesticide residues present in the test items. All results and method information has been reported online. The target list is based on the pesticides included in the EU multi annual control programme, MACP.

All test items used have been based on cereal/feedstuff grown and treated in the field with a mixture of pesticide formulations. Untreated crops were grown together with sprayed crops and used as blank material. The raw materials except for two EUPTs (rice) were grown in Denmark.

Consensus assigned values X were calculated as Algorithm A mean and were in the range of 0.03-11.2 mg/kg. Target standard deviation σ was set as Fit For Purpose RSD (FPS) of 25%.

To evaluate the whole multimethod a combined z scores (AZ2) were calculated for so called Category A laboratories, which were able to analyse for at least 90% of the compounds on the target list and detect and quantify at least 90% of the pesticide residues in the test items.

AZ2 scores were calculated as: $AZ^2 = \sum z^2 / n$, where n is the number of results.

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