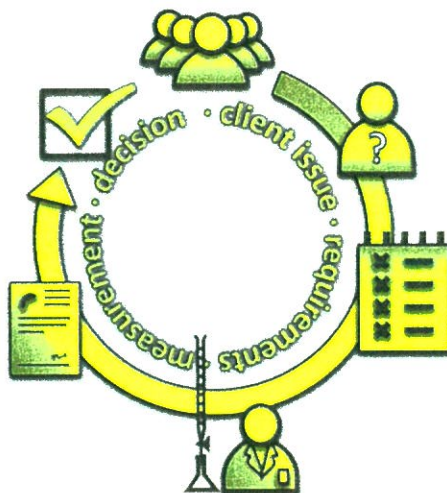




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Monitoring laboratory performance over time from proficiency testing by interlaboratory comparisons

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Proficiency testing by interlaboratory comparisons is used to determine the individual performance of a laboratory for a specific test or measurement and to monitor the continuing performance of laboratories.

Monitoring PT performance over time allows to identify potential problems related to random and systematic errors.

Participation in interlaboratory comparison tests (IEC), is a requirement of the accreditation bodies either for granting laboratory accreditation by EN ISO/IEC 17025:2005 as external quality control.

In this work laboratory performance trend over time for moisture in general analysis sample (EN 14774-3:2009), ash content (EN 14775:2009) and volatile matter (EN 15148:2009) in different biomass sources purchased by WEPAL, BIMEP program was evaluated from 2011 to 2013, for 18 samples. The following parameters were used: individual z -scores; the rescaled sum z -scores parameter, RSZ ; the sum squared z -scores, SSZ and J -scores [1, 2].

For moisture in general analysis sample and volatile matter all $|z\text{-score}| \leq 2$ while for ash content two scores (not in sequence) within $2 < |z\text{-score}| < 3$ were obtained.

No trends over time were detected, for all parameters, since $RSZ \leq 2$ and $SSZ < \chi_{18}^2$ distribution ($\chi_{18}^2 = 28.9$) and cumulative J -scores < 8 and it was not necessary to trigger any investigation procedure.

1. M. Thompson, amc technical brief AMCTB N°16 Royal Society of Chemistry, revised Abril 2007.
2. S. L. R. Ellison, V.J. Barwick, T. J. Farrant, , Practical Statistics for the Analytical Scientist. A Bench Guide, 2 nd Edition, RSCPublishing, Cambridge, 2009.