

## TECHNICAL COMMITTEE REPORTS

## Statistics Committee

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### Old Business

The Committee was advised that the previously defined "Old Business" items that did not receive "Action Item" status during 2004 were as follows: (1) define alternative procedures to replace indefinite values that are reported as data values for statistical analysis, (2) develop procedure to validly compare reproducibility variances for 2 methods that have been studied in the same collaborative study, and (3) report on the validity of using Cochran's test in screening outlying within-laboratory variances obtained under the Youden's matched pairs design (previously assigned to member but no progress reported). These items were discussed to assess whether they should receive "Action Item" status for 2005.

### Committee Actions

The Committee was advised by the Acting Chair (Jung-Kuen Lee) that the Chair (Foster D. McClure) had undertaken that task "to develop statistical tests to compare methods with respect to salient method performance indicators (e.g., sensitivity, specificity, etc.) for qualitative collaborative studies." The results were reported to

Committee H during the 117th AOAC Annual Meeting in Atlanta, Georgia. Though it was necessary to use these formulas in several new AOAC initiatives, no action has been taken to include these formulas in AOAC's Microbiological Guidelines. A discussion was undertaken to determine if the Chair should seek to include the formulas in the AOAC Microbiological Guidelines.

The Committee was advised that McClure and Lee had undertaken the task of rebutting comments made by Horwitz and Albert on their paper [Computation of HRRAT (2003) *J. AOAC Int.* **86**, 1056–1058]. The rebuttal was published in *J. AOAC Int.* **87**, 2A–6A.

The Committee was advised that McClure and Lee wrote a note, which is currently in AOAC's publication stream entitled "On Using HRRAT as a Procedure for Screening Analytical Methods with Respect to Precision."

The Committee was advised that McClure and Lee have undertaken research to define formulas to statistically compute an approximate upper limit on HRRAT.

The Committee was advised that McClure and Lee has undertaken research to verify the appropriateness of formulas used in ISO 5725 to estimate sample size for collaborative studies so that AOAC would have a guide to the uncertainty of their repeatability and reproducibility standard deviation estimates based on the AOAC recommended design.

The Committee was advised that and Lee have prepared a paper to include formulas that may be used to determine the uncertainty of the uncertainty statistics, obtained from collaborative study, that are used to characterize method performance. The paper was scheduled to enter AOAC's publication stream in June 2003, but the authors decided that the symbols that were used made reading too difficult. To date, no fruitful progress has been made in resolving the complexity of the symbols issue and the task will remain in an ongoing status until further notice.

### AOAC President's Request

At the 2003 meeting, Jonathan DeVries requested that the Committee revisit the AOAC requirement for Youden Matched Pairs. He thought that the 5% difference

$$\frac{x - y}{x} 100$$

in concentration of the 2 materials making up the pair members of Youden matched pairs was too stringent. In addition, he felt that the requirement that the materials must comprise the same matrix was contrary to what Youden intended as a procedure. He felt that a procedure that incorporates the Horwitz equation for estimating the predicted

relative standard deviation based on the analyte concentration should be used. The Chair informed DeVries of the current papers available on the subject and indicated that any peer reviewed proposal supporting the requested changes would be given consideration as a policy proposal by the Committee. To date, no member has undertaken this task.