Developments in methodology

The following column was prepared by AOCS Technical Director Dave Berner. Questions on these topics concerning analytical methodology of fats and oils or related products may be directed to Dave Berner, AOCS, PO Box 3489, Champaign, IL 61821-0489.

Computer tracking for Smalley

An IBM/PC compatible, menu-driven program for tracking Smalley analytical results currently is being developed. The program should be available for limited testing in September 1988. However, because of the large amount of Smalley data that needs to be entered to make the program completely functional, it will not be available for general distribution until mid-1989.

The menu-driven features of the program permit the production of 5-1/4-inch floppy disks tailored to the specific needs of each Smalley participant. Each participant's disk can be prepared at AOCS headquarters and the disk will allow the participant to (a) compare current Smalley results with results from the immediate past year and from all past years, (b) print a report ready for mailing and (3) print an invoice for next year's participation.

The program is protected in such a way that the analyst can enter only one valid result for each method required in the series samples. During preparation of the participant's disk, a new 3-digit code is automatically and randomly assigned each year. A special-coded option will be available to allow comparison of results to be made by one person in a laboratory, e.g., the QC manager, so that the program can be used as an intra-lab QC monitoring program. At the end of the Smalley program year, all disks can be returned to AOCS headquarters for evaluation.

The program is designed to interface with any statistical program, permitting calculation of statistical parameters—mean, standard deviation, % CV and reproducibility. The program also will have a subprogram for producing mailing labels. The program may be made available for limited testing later in 1988.

Corn refiners' certification

The Corn Refiners Association (CRA) has asked AOCS to investigate the possibility of developing and managing a laboratory certification program for corn gluten feed. The program would require chemist approval through the Smalley Program (this would require the addition of a new Smalley series for corn gluten feeds, with analysis of samples by five CRA methods—protein, moisture, oil, crude fiber and starch) and satisfactory performance on a series of blind corn-gluten-feed samples.

The program would be comparable to the National Soybean Processors Association's (NSPA) certified laboratory program for soybean meal. A survey is in progress to determine interest in the program. Those interested should contact either CRA headquarters or the AOCS technical director.

IR instrumentation

Since the beginning of the year, two instrument manufacturers have introduced new infrared (IR) instruments. Tecator Inc. has developed an IR instrument, based on transmission in the 800 to 1100 nm range, for the analysis of oil, protein and moisture in oilseeds. New applications are being explored.

Meanwhile, Oxford Analytical recently introduced Model QN 1000, a near-IR instrument in the United Kingdom. The Oxford instrument is based on reflectance. Information regarding this instrument appears in the New Products listing in this issue of *JAOCS*. An article on IR instrumentation will be published in an upcoming issue of *JAOCS*.

Kjel-Foss Automatic method

In 1987, AOCS adopted the Kjel-Foss Automatic method for the determination of protein (AOCS method Ba 4c-87). Lacking a sufficient data base, the scope of the method is limited to soybean meal. Currently, a survey is under way to determine the extent of interest in a collaborative study, required to expand the application of the method to other meals and to oilseeds.

A major problem with such a study is the comparison of the Kjel-Foss Automatic method with the classical Kjeldahl method (AOCS method Ba 4-38), requiring mercuric oxide catalyst and a macro Kjeldahl system. If there is interest in having such a study, most likely the Kjel-Foss method will be evaluated against Smalley retained samples (oilseeds and meals), to eliminate the need for using the macro Kjeldahl/mercuric oxide method.

Those interested in participating in the proposed study on this basis should contact the AOCS technical director.

Soxtec method for oil extraction

An independent organization has asked AOCS to validate the 2.5-hour Soxtec method (Tecator Inc.) for the extraction and determination of oil in oilseeds. At this time, potential collaborators have not yet been solicited, although this may occur before the end of 1988. In the meantime, anyone interested in participating in a collaborative study to validate this method should contact the AOCS technical director.