The Influence of the Non-Profit Research Institutes on Industrial Research Procedures

BECAUSE OF THE COMPLEXITY of the industrial economy of the United States, further advances in our production and standards of living will be largely dependent upon the efforts and productivity of our industrial research laboratories. What is true of the nation at large is even more applicable to the fat and oil industry.

M. H. Thornton

This industry has largely been concerned with the improvement, upgrading, and modification of natural products. For this reason it came into the research picture at a somewhat later date than many other industries. Also it has a somewhat more difficult task because of its relatively restricted field, largely involving natural products. This industry has, to a great extent, overcome these handicaps at the present time. The activities centered around the American Oil Chemists' Society testify to the fact that it is not only thoroughly sold on the value of industrial research but that it practices it extensively.

The rapid national increase in industrial research has taken place largely in the last two decades. Many factors have been responsible for this growth. Perhaps one of the most important of these is that there has been an enormous rise in demonstrated successful results from industrial research. This record has led more and more companies to become more research-conscious and has encouraged those already engaged in research to increase their efforts very rapidly.

This period of rapid increase in industrial research has been coincident with the appearance of the non-profit research institutes on the American scene. As our industrial research picture became better organized, it was obvious that a gap existed in it between the large company laboratories on the one hand and the university and government laboratories on the other. A notable aspect of this gap was the inability of the small industrial firm to staff its own laboratory and to obtain research of an industrial nature from the outside facilities then in existence. The non-profit research institutes have, to a large extent, filled this gap.

These organizations make up only a very small portion of the total industrial research facilities. In fact, altogether they probably have somewhat less than 5,000 total technical people. These institutes have had an influence entirely disproportionate to their size, and this influence has contributed to a considerable extent to the present, generally successful, industrial research operation nationally. Organization-wise, industrial research is now in somewhat the same stage that business in general was a number of years ago. Undoubtedly it is evolving in the same manner, and we can expect in the future that research will become more and more standardized and increasingly efficient in its application.

SINCE the successful practice of industrial research is so important to our national economy and since a great deal of effort is now being devoted to improve such operations, it will be of considerable value to examine the ways and means by which these institutes have been able to influence research procedures nationally.

The research institutes have played an important role in encouraging more companies to engage in industrial research. This missionary role has developed in these organizations a sincere belief in the part that industrial research can play in the growth of commercial firms. It has also evolved a considerable spirit of confidence in the ability of these institutes to develop successful solutions for various types of problems and engendered a feeling of responsibility for advancing the cause of industrial research by all possible methods.

One of the important factors in the operations of non-profit research institutes is the faithful periodic evaluation of progress on each project. This has brought about a high degree of motivation on the part of the research staff.

In nearly all cases the staff is engaged on a well-defined, definite assignment with the absolute necessity of meeting time and budget deadlines. This has undoubtedly been an important factor in the high degree of success attained by these organizations.

The non-profit research institutes face an extremely wide variety of assignments. Most of them operate in all the important fields of science and engineering, and their research problems come from all types of industry. This tends to create and sustain a high degree of interest throughout the staff of such an organization.

Wide experience with selection of staff has enabled the management of the non-profit research institutes finally to choose principally those people who are creative and who are highly motivated to get the job done. The wide variety of contacts obtained through work with hundreds of different companies furnishes an opportunity for the staff to develop in these directions very rapidly. The numerous skills represented on the staff and the flexibility of organization enable proper teams to be put together under ideal conditions to bring about the solution of various types of problems.

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To Work on Antioxidants

WITH THE APPROVAL of the president of the American Oil Chemists' Society, T. H. Hopper, a new subcommittee to investigate methods for the analysis of antioxidants has been set up by the Fat Analysis Committee, of which V. C. Mehlenbacher of Swift and Company, Chicago, is chairman. Named to the group are Le Roy Dugan Jr., chairman, American Meat Institute Foundation, Chicago; Gardner Kirsten, Food and Drug Administration, New York, N. Y.; J. A. Chenicek, Universal Oil Products Company, Des Plaines, Ill.; J. H. Mitchell Jr., Quartermaster Food and Container Institute, Chicago; and B. N. Stuckey, Eastman Chemical Products Inc., Kingsport, Tenn.

Ammonium Sulfate Discontinued

THE DISTRIBUTION AND SALE of A.O.C.S. Official Standard Ammonium Sulfate (for standardizing, containing 25.67% NH_3) was discontinued by the American Oil Chemists' Society as of January 1, 1957, upon recommendation of the chairman of the Seed and Meal Analysis Committee, T. H. Hopper, and with the approval of a majority of the Uniform Methods Committee, of which J. T. R. Andrews is chairman.

There are a number of reasons for this decision. 1. The ammonium sulfate standard is a check on the distillation portion of the analysis only and reveals nothing about the completeness of digestion. 2. No reference is made to the standard ammonium sulfate, or its use, in any of our methods for nitrogen, ammonia, and protein. 3. Calculations are based upon employment of "accurately standardized" sodium hydroxide and sulfuric acid solutions, for which details are given in A.O.C.S. Spec. H 12-52. 4. If the percentage of nitrogen stated on the label of the ammonium sulfate is not obtained by analysis, no course of action is prescribed, and perhaps none is warranted.

A.O.C.S. Commentary

(Continued from page 4)

Like research in general, the non-profit research institutes are undergoing constant changes to improve their performance and to make increasing contributions to industrial progress and to the national defense effort. They now appear to be sufficiently developed to constitute an important part of what is perhaps the nation's greatest asset—industrial research.

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In March, 1922

A membership breakdown for February shows members in 31 states, the District of Columbia, and five other countries: Canada, China, England, Honduras, and India. States with the largest membership were Illinois, 31, New York, 30, and Georgia and Texas, each with 25.

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"Observations on the Influence of Free Fatty Acids on Color Changes in Corn Oil," by A. F. Sievers and J. D. McIntyre, appears in the Chemists' Section of The Cotton Oil Press by permission of the U. S. Department of Agriculture.

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The death on January 28 of Charles Baskerville, professor, chemical department of the College of the City of New York, is reported in the Chemists' Section.

A five-day technical career conference will be held in Chicago beginning June 8, 1957, under the sponsorship of The Technical Career Council, 19 S. LaSalle street, Chicago, Ill.