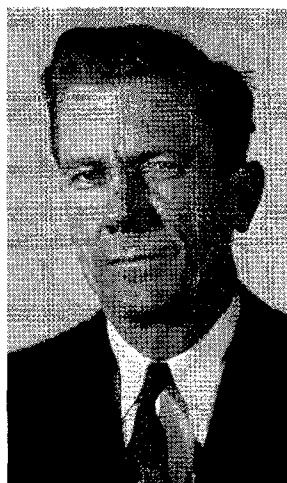


Southwestern Research Institute

THE SOUTHWESTERN RESEARCH INSTITUTE is a nonprofit public service organization established for the purpose of conducting research and development in the pure and applied sciences. It is an integral part of Southwestern at Memphis, a nontax-supported institution of higher education. Recognizing that research facilities and investigative effort are basic to greater productivity and industrial development of the nation and the community, the Institute has been established in order that Southwestern may contribute its maximum effort in helping to meet the challenge in the quest of fundamental knowledge and its useful adaptation to man's purposes. Through the close association with the educational program of Southwestern, the Institute provides encouragement to young people to seek careers in science and engineering.



R. T. Vaughn

In our rapidly expanding technological age everyone engaged in the production of goods is becoming aware that a research program is necessary to keep abreast of modern developments. Regardless of the size of an organization, it is almost impossible to provide the necessary personnel and equipment to investigate properly the many problems that arise from and in conjunction with a general research program. The research institute is the only organization existing today to which an industrial firm or the United States government can turn to get a specific job done by a specialized staff at the lowest possible cost. Not only does the contracting firm have an exact knowledge of the cost of a particular investigation but also has the exclusive rights to the work performed in confidence as if it were carried out in the firm's own laboratories. In addition to supplying a supplemental service to existing research programs, the research institute makes it possible for the small progressive organization to maintain a research program in line with its particular needs.

The Southwestern Research Institute is organized to provide supplemental research of a specialized nature or to supply the complete laboratory facilities and personnel as well as direction for those organizations whose operations will not permit maintenance of a staffed laboratory. In addition SRI provides a consulting service. A specialized staff member is available to serve in a capacity best suited to the company's needs. In addition to the regular fields the Institute has available a consulting service in the methods of analytical instrumentation. With the shortage of analytical chemists and the extreme importance of infrared spectrophotometry, mass spectrometry, gas chromatography, radioactive-tracers, and other instrumental techniques in practically all types of research, this service will enable a laboratory to use these invaluable instruments with their regular laboratory staff.

LOCATED in the "Cotton Capital" of the world, naturally the Southwestern Research Institute is interested in research related to the production and utilization of cotton and cottonseed products. Fats, oils, and related fields have been selected as another area of research for major emphasis. The relative importance of this particular area in the thinking of those who established the Institute can easily be determined by turning to the Initial Advisory Committee. Three members of this committee are well known to the membership of the American Oil Chemists' Society: J. R. Mays Jr., president, Barrow-Agee Laboratories; S. Jack Rini, vice president and director of research, HumKo Division of National Dairy Products Corporation; and P. Frank Woodson, partner, Woodson-Tenent Laboratories. The Institute is fortunate to have the thinking, knowledge, and varied experience of these gentlemen available for consultation and guidance as it moves forward in this field.

One of the first acts of the Institute was to join hands with the vegetable oil industry by negotiating the first contract in the Chemical Division with the HumKo Division of National Dairy Products Corporation. In addition to carrying on the work as provided in the contract with HumKo, this association has provided the impetus for the additional basic research in this field now being initiated by the Institute, which is to be supported by grants. Although an industrial firm may be interested only in applied research, such investigations may lead to fundamental studies if carried out in laboratories where there are an interest and facilities for basic research.

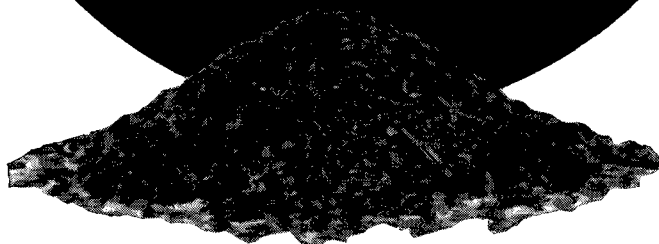
During the first year of operation the Institute has expanded as rapidly as qualified personnel and the necessary apparatus and equipment could be obtained. Research projects are under way in all major scientific fields with plans for continued expansion in the various specialized areas.

Arranging to sponsor a project at Southwestern Research Institute may be initiated by writing, by telephone, or by personal visit. Inquiries and visitations are invited. By sponsoring a project or

(Continued on page 8)

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MARGARINE COLORED WITH BETA CAROTENE PLUS VITAMIN A SHOWS EXCELLENT COLOR STABILITY AND 98% RETENTION OF VITAMIN A AFTER STORAGE FOR SIX MONTHS... GOOD DAYLIGHT STABILITY ALSO PROVED IN 10-DAY EXPOSURE TEST.

If you manufacture margarine, or any colored edible oil product, stability of color is essential to the saleability and consumer acceptance you are seeking.

In a test made by Pfizer Technical Service, margarines were colored to the usual tinctorial level with ethyl bixin, with beta-carotene (natural as well as synthetic) and with a mixture of natural beta-carotene (containing xanthophylls and alpha-carotene) and ethyl bixin. These products were fortified to contain 15,000 U.S.P. units of Vitamin A per pound.

These margarine samples were held at 140°F. for six hours, then emulsified, cooled, recrystallized and stored at 70°F. for stability studies. Temperature and holding time were selected to simulate the extreme limits reported in the industry. (A margarine sample containing equal parts of FD & C Yellows 3 and 4

was used as a known stability standard).

After six months all samples showed very satisfactory color stability and 98% retention of vitamin A.

In a different type of color fade test, margarines colored with natural beta-carotene, and with ethyl bixin, showed no loss of color after 10 days of exposure to daylight.

Pfizer offers both beta-carotene and vegetable color in batch-sized containers in combination with vitamin A. Write Pfizer, if you would like full information on the use of fine coloring ingredients in fatty food products.

★ ★ ★

Citric Acid Improves Stability Of Edible Oil Products

Major edible oil manufacturers report exceptional results from the use of citric acid to improve stability and flavor re-

tion of their products.

Natural edible oils generally contain trace metals. During processing they may pick up additional trace metal from reaction vessels, lines, pumps and storage tanks.

Citric acid and certain esters of citric acid act as sequestering agents which inactivate these traces of iron, copper and nickel in edible fats and oils. By complexing the metallic ions, citric acid inhibits the metal catalyzed oxidation of unsaturated fatty acids into peroxides which cause "off flavors and rancidity."

If you would like further information on this use of citric acid, write to Pfizer for *Technical Bulletin 72*. CHAS. PFIZER & CO., INC., Chemical Sales Division, 630 Flushing Ave., Brooklyn 6, N. Y. Branch Offices: Chicago, Ill.; San Francisco, Calif.; Vernon, Calif.; Atlanta, Ga.; Dallas, Texas