



FATS AND PROTEINS RESEARCH FOUNDATION, INC.

3150 DES PLAINES AVENUE • DES PLAINES, ILLINOIS 60018
(5 MINUTES FROM CHICAGO'S O'HARE AIRPORT)

TELEPHONE AREA CODE 312 827-0139

"THE DIRECTOR'S DIGEST"

D. M. Doty
Technical Director

November 22, 1966

No. 29

As we begin our new FPRF fiscal year it is perhaps an appropriate time to look closely at our research program and evaluate it carefully in terms of the goals set forth when FPRF was organized nearly five years ago. The broad purpose of the Foundation, as set forth in our By-Laws, is to conduct investigations that will lead to expanded use of fats and proteins, particularly those produced by the rendering industry. To accomplish this our research program has been, and currently is, organized to: (1) develop information that will lead to expanded use of fats and animal and poultry protein meal in livestock feeds; (2) find new chemical or industrial outlets for fats and proteins or products produced from them; and (3) conduct investigations needed to improve our products and processes to satisfy our customers and the various local and Federal regulatory agencies.

All of our projects fit into a program designed to give answers to four basic questions as follows:

- 1) How can livestock feeders best utilize our fats and proteins most economically for maximum nutritional benefits? To answer this question, FPRF is supporting feeding trials with meat and poultry meals at North Carolina State University (dairy cattle), the University of Delaware (poultry) and the University of Minnesota (swine). Also studies are just being initiated at Kansas State University to evaluate the non-nutritional advantages of using animal fat in feed (control of dust losses, improved pelleting at lower cost, etc.)
- 2) Can we expand the uses for our proteins through the development of new rendering techniques, improvement of nutritive quality or by finding new industrial uses for some of them? More basically, our problem here is to

separate our high quality globular protein for food and feed use and then to either improve our collagen and keratin type proteins for use in feeds or to find industrial uses for them. Since no single research organization has the interest and qualified personnel to attack this problem on all fronts our program in this area is split up into a number of projects:

- a) Studies at Battelle Memorial Institute with a pilot plant to separate our high quality globular protein from bone and collagen.
 - b) Investigations by Porsche and Associates to upgrade collagen for feed by microbial fermentation.
 - c) Research at The Gelatine and Glue Research Association to develop new or expanded industrial uses for collagen.
 - d) Harris Research Laboratory studies to modify hair and feathers chemically for use in feed or for industrial utilization.
- 3) What new or expanded industrial uses for our fats can be developed? Because this part of our program should be attacked by a number of people with varied interests and different technical backgrounds our projects in this area include the tests on fat-derived surfactant adjuvants in agricultural sprays at Purdue University, University of Illinois and the University of California at Davis, the research of Porsche and Associates on the microbial modification of fats, the studies of R. L. Johnson on the use of fats to improve the strength of water-repellent characteristics of concrete, investigations at Battelle Memorial Institute on derivatives of tallow and related compounds for water-repellent coating of concrete, and testing of a fat-derived material (9-carboxystearic acid) as an air-entraining agent for concrete at the Robert W. Hunt Company.
- 4) What can we do to make our processes and products meet the standards of our customers and various regulatory agencies? FPRF-supported investigations in this category include the survey on pesticide residue content in our fats, the development of an odor control manual for the industry, design and testing a terminal heater for Salmonella control, and research on Salmonella in poultry and poultry feeds.

Thus our research program should be viewed and evaluated not as a group of individual projects each designed to provide complete answers to a problem but rather as a four-pronged attack on the major problems of the rendering industry. It is a carefully organized minimum program to answer the major questions facing our industry today.