



# FATS AND PROTEINS RESEARCH FOUNDATION, INC.

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THE DIRECTOR'S DIGEST

FOUNDED BY D. M. DOTY  
TECHNICAL DIRECTOR

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This copy of the Director's Digest, the 105th consecutive issue by that name since 1964, marks the close of an era. It encompasses a span of nine years of fruitful research since the inception of the FPRF during which it thrived under the distinguished leadership of its first Technical Director, Dr. Delbert M. Doty. The FPRF has become renowned throughout the free world as the principal clearing house for animal byproducts research.

With his forthcoming retirement in April, I shall try to follow in the footsteps of Del Doty as your new Technical Director and to maintain the high standards of research established by him and our Research Committee. I shall welcome your suggestions and comments to make the Director's Digest a useful and timely report.

Sincerely,

Werner R. Boehme  
Technical Director

## NEW LIME-SOAP DISPERSING AGENTS ARE EFFECTIVE IN SOAP-BASED DETERGENT FORMULATIONS

The Eastern Regional Research Laboratory of the United States Department of Agriculture has been studying the lime-soap dispersing properties of a number of novel alkylbenzoyl-sulfopropionates in tallow-based soap formulations. These compounds, which are related to the well known linear alkylbenzenesulfonates (LAS), are excellent surfactants per se and biodegradable.

They were formulated with sodium tallowate, silicate and carboxymethylcellulose and evaluated in a standard laundering test for detergency on soiled cotton and polyester cotton fabric samples. One formulation derived from a commercial dodecylbenzene compares very favorably with TIDE<sup>®</sup>, the phosphate based reference detergent, in effectiveness on polyester-cotton with a permanent press finish (Testfabric). Detergency was evaluated in terms of increased reflectance of the washed cloth over the soiled cloth.

Several new alpha-sulfotallowamides were synthesized in another phase of this research project which so far has only been explored very superficially. The amine oxide of one basically substituted alpha-sulfotallowamide, however, has shown a remarkable increase in effectiveness of the tallow-based soap formulation and points the way to an entirely new series of molecules with lime-soap dispersing properties.

This project is being conducted by Dr. William N. Marmer with grant support from the Fats and Proteins Research Foundation. A paper based on this research will be presented by Dr. Marmer at the forthcoming Spring meeting of the American Oil Chemists' Society in New Orleans, April 29-May 2 (William N. Marmer and Warner M. Linfield, "Soap-Based Detergent Formulations. VII. Derivatives of Alkylbenzoylsulfopropionic Acids as Lime-Soap Dispersing Agents").