

AOCS Corresponding Secretary for Sweden Reports

American Soybeans Processed at Karlshamn

For the first time since 1961/62 about 3,000 tons of soybeans have been processed at the solvent extraction plant at Karlshamn, usually extracting Swedish rapeseed—and mustardseed. A second shipment will be processed in the spring of 1965.

Symposium on Rancidity Planned

The 4th Scandinavian Symposium of Rancidity will be held at ÅBO, Finland, Aug. 31–Sept. 3, 1965. Lectures will be held by invited experts on the following items:

1. The structure of triglycerides and fatty acid composition.
2. Unsaponifiable matters and other nontriglyceride components and their influence on taste and flavor.
3. Oxidation and flavor reversion of triglycerides.
4. Oxidation of triglycerides in a multifas system
 - a) In combined foods
 - b) Influence of manufacturing methods.

Margarine Manufacturers Meet

Representatives for national margarine manufacturers associations from Norway, Denmark, Finland and Sweden met at Stockholm January 21st. The following subjects were discussed: Scandinavian food laws with regard to fats and margarine, agricultural politics, FAO's campaign "Freedom from Hunger" and the question of international standards for margarine.

Nihlberg with Canning Industries

Kjell Nihlberg, technical manager of AB Karlshamns Oljefabriker, Karlshamn, has accepted a new position at Kooperativa Forbundet (KF). He will be responsible for the development of a new canning industry. KF ranks 44th in Fortune Directories Foreign Companies and is the Swedish Cooperative Wholesale Society, which also owns Karlshamns Oljefabriker.

Larson Completes Thesis

Kåre Larsson recently finished a thesis, *Solid State Behaviour of Glycerides*. Arkiv Kemi 23, 5 (1964). Crystallography group, Institute of Medical Biochemistry, University of Göteborg, Göteborg. The thesis consists of the following papers: Acta Cryst. 16, 741 (1963); Acta Chem. Scand. 16, 1751 (1962); 17, 199 (1963); 17, 221 (1963) and 18, 272 (1964); Arkiv Kemi 23, 1 (1964); 23, 17 (1964); 23, 23 (1964); 23, 29 (1964) and 23, 35 (1964).

Mono-, di- and triglycerides of normal fatty acids exhibit a very complicated phase behaviour. Due to their technical

and biological importance this field has been the subject of numerous reports. There have been many controversies, however, concerning the number of crystal forms and the degree of order of the molecules. To gain a deeper insight into the phase transitions, crystal structure determinations were started by the present author.

In order to simplify the structure analyses ω -bromine containing glycerides were used, and the effect of an ω -bromine atom replacing a terminating methyl group was systematically studied in ω -bromine fatty acids. The crystallographic calculations were performed on a Saab D21 computer and a program was written for general Fourier syntheses containing special facilities for automatic structure analyses.

Nine crystal forms of 1-monoglycerides have been found, four optically active and five racemic ones. The racemic form is separated into antipode crystals on rapid crystallization from solvents, which is a very unusual situation. A new type of polymorphism in long-chain compounds, which is due to alternative layer stacking, was revealed in racemic 1-monoglycerides. One true crystal form and one mesomorphous phase with a structure of smectic type were found in 2-monoglycerides. The structures of some monoglyceride crystal forms showed hydrogen bonds only between hydroxyl groups.

Symmetric diglycerides have been shown to crystallize in two forms. The hydrocarbon chain tails of the molecules are oriented in opposite directions with respect to the glycerol residue. The molecules are linked by hydrogen bonds between hydroxyl groups and carbonyl oxygen atoms.

Three crystal forms of triglycerides exist. The stability relations of these forms, however, depend on the chain length. The molecules are arranged in double-chain layers with the chains directed accordingly to the "tuning-fork" model, which means that the chains in 1- and 3-position are oriented in opposite direction to the chain in 2-position with respect to the glycerol residue.

In view of the fundamental chemical differences between mono-, di- and triglycerides the similarities in their polymorphism are quite remarkable and illustrate the dominating influence of the hydrocarbon chain packing.

The existence of alternation in melting points between even and odd members in many homologous series of long-chain compounds is well known. It has been possible to explain this behaviour fully by analyses of the appearance of the methyl end-group planes.

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• Referee Applications

First Notice. Ronald Mayo Fox of Texas Testing Laboratories, Inc., P. O. Box 2144, Dallas, Texas 75221 has applied for a Referee Certificate on Oil Cake and Meal, Cottonseed and Soybean Oils and Cottonseed. Interested parties wishing to comment on this certification should communicate with the Chairman of the Examination Board. Please write to R. T. Doughtie, Jr., Chairman of the Examination Board, P. O. Box 17469, Memphis, Tennessee 38117.

First Notice. Hans J. Schulze of New Jersey Feed Laboratory, 910 Pennsylvania Avenue, Trenton, New Jersey has applied for a Referee Certificate on Oil Cake and Meal. Interested parties wishing to comment on this certification should communicate with the Chairman of the Examination Board. Please write to R. T. Doughtie, Jr.,

Chairman of the Examination Board, P. O. Box 17469, Memphis, Tennessee 38117.

First Notice. James M. Owens of Laucks Testing Laboratories, Inc., 1008 Western Avenue, Seattle 4, Washington has applied for a Referee Certificate on Oil Cake and Meal, Tallow and Grease and Protein Concentrates. Interested parties wishing to comment on this certification should communicate with the Chairman of the Examination Board. Please write to R. T. Doughtie, Jr., Chairman of the Examination Board, P.O. Box 17469, Memphis, Tenn. 38117.

First Notice. Clyde J. Ambacher of Northwest Laboratories, Hartford Building, 200 James Street, Seattle, Washington 98104, has applied for a Referee Certificate on Tallow and Grease. Interested parties wishing to comment on this certification should communicate with the Chairman of the Examination Board. Please write to R. T. Doughtie, Jr., Chairman of the Examination Board, P.O. Box 17469, Memphis, Tenn. 38117.