

A SIMPLE SEPARATION OF NEUTRAL LIPID CLASSES WITH TWO DIMENSIONAL THIN-LAYER CHROMATOGRAPHY. D.C. Palmer, J.A. Kintzios and N.M. Papadopoulos (Div. of Biochem., Walter Reed Army Inst. of Res., Walter Reed Army Med. Ctr., Washington, D.C.). *J. Chromatog. Sci.* 10, 107-9 (1972). A two-dimensional thin-layer chromatographic system for the separation of classes of neutral lipids is described. Silica Gel G precoat (with binder) are used as the adsorbent with development in lined, initially dry, chambers with no prior equilibration of the system. The main lipid classes separated are: cholesteryl esters, triglycerides, fatty acid methyl esters, fatty acids, 1,3-diglycerides, 1,2-diglycerides, cholesterol and monoglycerides. Limited separation of unsaturated triglycerides is also demonstrated.

SIMULTANEOUS RECOVERY OF PROTEIN AND OIL FROM RAW PEANUTS IN AN AQUEOUS SYSTEM. K.C. Rhee, C.M. Cater and K.F. Mattil (Food Protein R&D Center, Texas Eng. Exp. Sta., Texas A&M Univ., College Station, Tx. 77843). *J. Food Sci.* 37, 90-93 (1972). The feasibility of using an aqueous system for the simultaneous recovery of peanut oil and food grade protein concentrates and isolates directly from raw peanuts was investigated. The effects of such pertinent processing parameters as degree of grinding, solids-to-solvent ratio, extraction time and temperature, pH of extraction and protein precipitation and various salts at different concentrations on the recovery of oil and protein concentrates and isolates were determined. Under optimized conditions, approximately 96% of the oil and 94% of the proteins present in the peanuts were recovered when protein concentrates were prepared by employing an initial isoelectric centrifugation procedure whereas approximately 92% of the oil and proteins were recovered under the conditions of protein isolate preparation by an initial alkaline extraction method.

New Books

Lou Going, Book Review Editor

PROCEEDINGS SOS/70 THIRD INTERNATIONAL CONGRESS FOOD SCIENCE AND TECHNOLOGY (Washington, D.C., August 1970), Edited by G.F. Stewart and Calvert L. Willey (Institute of Food Technologists, 1971, 940 p., \$15.00).

The welcoming remarks indicate ". . . perhaps the most critical need the world faces in the next few years. . . is the problem of feeding a world population which is growing without prospect of early effective restraint and which even now is not fed satisfactorily in either quantity or quality. That is why we have chosen the theme of "Science of Survival" for this meeting."

This is a hard cover collection of 140 papers varying in length from 2-18 pages. The papers are, generally, well-referenced. No discussion is appended.

The general topics listed in the Table of Contents are: (1) Plenary Sessions; (2) Education for Food Science and Technology; (3) Information and Documentation; (4) Food Acceptance in a Changing World; (5) Nutritional Considerations in the Application of Food Technology; (6) New Sources of Proteins; (7) Food Fat and Human Health; (8) Biological Evaluation of the Nutritive Value of Foods; (9) Sensory Properties of Foods (Flavor); (10) Food Engineering; (11) Food Preservation and Protection; (12) Physical and Chemical Properties of Foods; (13) Food Safety; (14) Food Laws and Regulations; (15) Water Supply and Water Disposal.

So varied are the topics that political, social and economic as well as technical aspects of "Science of Survival" are presented.

This book would be of general interest to food scientists and technologists and to those concerned with food problems of developing countries.

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SOY PROTEIN-LIPID FILMS. I. STUDIES ON THE FILM FORMATION PHENOMENON. L.C. Wu and R.P. Bates (Food Sci. Dept., Univ. of Florida, Gainesville, Fla. 32601). *J. Food Sci.* 37, 36-39 (1972). The phenomenon of soy protein-lipid film formation has been studied with soy milk and model systems of soy protein isolate (SPI), phospholipids, vegetable oil and sucrose, in attempts to define the effect of these components on heat induced protein-lipid surface film formation. Water-dispersible protein had the primary role in film formation. Of the secondary components phospholipids were more capable of combining with SPI than were neutral lipids. Carbohydrate was least capable of incorporation and was not essential. However, all the secondary components tended to help the film formation on the surface of heated (85C) aqueous dispersion of SPI, and film yield did not decrease as long as the concentration of protein was maintained within a critical range (1.5-3.0%) and secondary components were at about 0.9%. The film formation phenomenon is hypothesized as based on protein denaturation, endothermic polymerization of protein and lipid-protein interaction.

METHYL BROMIDE RESIDUES IN OILS. E. Listopadeva et al. *Prumysl Potravin* 23(2), 40-3 (1972). The authors studied experimentally the possibility of treating oil seeds with methyl bromide and methods for its subsequent elimination. The study was carried out on sea cabbage, poppyseed, sunflower, rapeseed and peanut, both decorticated and non-decorticated. The residues could not be eliminated by heating or by aeration. However, the amount remaining in the oils extracted from the treated seeds was negligible. (Rev. Franc. Corps Gras)

DEPENDENCE OF THE QUALITY OF BUTTER ON THE CONTENT OF UNSATURATED FATTY ACIDS. P.N. Andreev et al. *Izv. Vysshikh Uchebn. Zavedenii, Pishchevaya Tekhnol.* 1971(6), 74-7. Prolonged storage of unsalted butter at -18C results in oxidation, especially of highly unsaturated fatty acids. Under these conditions, oleic acid is hardly touched. The most important changes are those which the non-conjugated unsaturated fatty acids undergo, conjugated acids being only slightly affected. The quality of butter in prolonged storage is directly correlated with the decrease in the amount of non-conjugated highly unsaturated fatty acids and the acidity of the butter serum. Storage stability depends on the initial content of these fatty acids as well as their ratios to one another. (Rev. Franc. Corps Gras)

EFFECT OF DIFFERENT FACTORS ON THE EXTRACTION OF CORN OIL. N.M. Minasjan et al. *Mashlozhir. Prom.* 38(1), 8-10 (1972). The form of the particles, their size and the moisture content of the presseake have significant effects on the extraction of the oil. The effect on the extraction process exerted by the moisture content of the corn germ obtained by the dry process is greater than that exerted by the moisture content of the presseake resulting from germs obtained by the wet process. It is convenient to extract the germs at 5-8% moisture and the presseake at 10% moisture. In the treatment of corn presseake, flake form is preferable to meal. (Rev. Franc. Corps Gras)

EFFECT OF THE COMPOSITION AND THE PROPERTIES OF THE LIPID COMPONENT ON WHEAT STARCH. L.I. Puckova et al. *Izv. Vysshikh Uchebn. Zavedenii, Pishchevaya Tekhnol.* 1971(6), 26-8. The addition to wheat starch of sunflower oil and of a mixture of sunflower oil with 5-10% of hydrogenated cottonseed oil alters the temperature of maximal gelatinization, the time when the maximum is reached and the viscosity of the aqueous lipid-starch suspension. The essential variations in these properties occur during temperature changes from 30 to 90C. Addition of the hydrogenated oil improves the quality of starch bread. (Rev. Franc. Corps Gras)

THERMAL CONDUCTIVITY OF SUNFLOWER SEEDS. I.G. Korateev et al. *Izv. Vysshikh Uchebn. Zavedenii, Pishchevaya Tekhnol.* 1971(6), 23-5. The increase in the moisture content of sunflower seeds from 6 to 17.8% is accompanied by a linear increase in their apparent density, specific weight and specific heat. Increase in the moisture content of the seeds to 11% leads to an increase of the cooling time, of the coefficient of thermal diffusivity, and to a decrease in the thermal resistance. Further increases in moisture content do not affect the quantities mentioned, except the coefficient of thermal diffusivity which is lowered. (Rev. Franc. Corps Gras)

A PROPOSED IMPROVEMENT IN THE AOM TEST WITH PARTICULAR REFERENCE TO BEEF TALLOW. J.P. Rialland (Laiteries F.

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