

fats and this group is divided in the following four subgroups: C- lipid fractions obtained without chemical modification of their triglycerides, D- interesterified fats before they are eventually fractionated, E-hydrogenated fats and F- hydrogenated fats interesterified and eventually fractionated. The third group includes complex fats and this group is subdivided in three subgroups: G- nonemulsified systems, H- emulsified systems, and I- pulverized fats. (Rev. Franc. Corps Gras)

DETERMINATION OF SOME VALUES CHARACTERISTIC OF THE PHYSICAL PROPERTIES OF NATURAL FATTY ACIDS. L.V. Porolo et al. *Maslozir. Prom.* 1973(10), 17-21. The physical properties examined by the authors were: density, specific heat, thermal conductivity, viscosity and surface tension. The average coefficient of volume dilatation of natural liquid fatty acids is 0.00097/°C. In the solid state, the saturated fatty acids C<sub>6</sub>, C<sub>10</sub>, C<sub>12</sub>, C<sub>14</sub>, C<sub>16</sub> and C<sub>18</sub> have coefficients of volume dilatation of 0.00035, 0.00039, 0.00019, 0.000191, 0.00028, and 0.000266/°C, respectively. (Rev. Franc. Corps Gras)

REFINING OF MINK OIL. S.N. Volotovskaja et al. *Maslozir. Prom.* 1973(10), 13-4. The authors studied the refining of the sample of mink oil with an acid number of 3.9, peroxide number 0.03%, iodine number 80.4, melting point 23.1C, unsaponifiable matter 0.24% and moisture 0.68%. The refining included the following operations: filtration for elimination of impurities, neutralization with the 20% excess of sodium hydroxide (90g/l conc.), filtration through the layer of bleaching earth to eliminate traces of soap and deodorization. Addition of 0.02% of BHT decreased the rate of the oxidation of crude oil two times and the oxidation of refined and deodorized oil 2.5 times. (Rev. Franc. Corps Gras)

USING OF SUNFLOWER HULLS. V.P. Gladkaja et al. *Maslozir. Prom.* 1973(9), 35-6. Sunflower hulls can be used as raw material for the production of fodder. The process consists of the grinding of the hulls to obtain particles not larger than 3mm and then mixing these with gums heated to 70-80C

until a homogeneous product is obtained. The hulls, which will be used for this purpose, must have a water content not higher than 10%. The gums cannot have an oil content higher than 50%. (Rev. Franc. Corps Gras)

UTILIZATION OF KIESELGUR K-700 FOR THE FILTRATION OF SUNFLOWERSEED OIL. S.N. Volotovskaja et al. *Maslozir. Prom.* 1973(9), 17-19. With kieselgur (porous diatomite), it is possible to obtain a transparent sunflower oil which will not cloud when held at 0C or 5C for 24 hours. With the pressure 4.9 10<sup>4</sup> to 19.6 10<sup>4</sup> Pa, the speed of the filtration with kieselgur is about 40 kg/m<sup>2</sup>h for the crude oil and 60 kg/m<sup>2</sup>h for the hydrated oil. The filtration decreases appreciably the quantity of phosphatides in the oil. (Rev. Franc. Corps Gras)

DETERMINATION OF THE CONTENT OF CARBONYL COMPOUNDS OF LIQUID AND HYDROGENATED SUNFLOWER OIL. M.E. Koncalovskaja et al. *Maslozir. Prom.* 1973(9), 12-14. In the determination of carbonyl compounds in liquid and hydrogenated sunflower oil, the yield of 2,4-dinitrophenyl hydrazones depends on the excess of dinitrophenylhydrazine in the reaction. The excess of hydrazine should be about 700-1,000%. The time of reaction for liquid oils should be 3 hours and for hydrogenated oils 2 hours. The analyses reported in the paper were done with a reaction time of 1 hour. (Rev. Franc. Corps Gras)

ADSORPTION OF PIGMENTS AND PHOSPHATIDES AS A FUNCTION OF TEMPERATURE DURING THE REFINING WITH THE ADSORBENT OF SOYBEAN OIL MISCELLA. V.V. Kljuckin et al. *Maslozir. Prom.* 1973(8), 13-15. The adsorption of pigments increases with temperature from 20 to 45C during the refining with an adsorbent in soybean oil miscella. Above this temperature, the adsorbent power of the bleaching earth, regarding carotenoids and chlorophyll, does not change. The elimination of phosphatides increases with the temperature from 20 to 70C. Especially intensive adsorption is observed at temperatures above 40C. (Rev. Franc. Corps Gras)

STRONG ELECTRICAL FIELDS IN THE TECHNOLOGICAL PROCESSING IN THE OIL INDUSTRY. T.V. Mgebrivili. *Maslozir. Prom.* 1973(7), 5-7. At the Institute of Scientific Research for Food Industry of Krasnodar, work has been in progress since 1967 on the utilization of strong electrical fields in the oil industry. This technique is applied for the electroseparation of a mixture of almonds and sunflower hulls, for the separation of substances in the suspension in hexane miscella, for the separation of impurities in cloudy oils, and for the separation of catalysts from hydrogenated oils. Physico-chemical and biological studies showed that the quality of the lipids treated with electrical field is not changed if the tension is not higher than 30 kV-cm and if the time of the field action is not more than 20 minutes. (Rev. Franc. Corps Gras)

ABOUT THE CAUSES OF THE DIFFICULT HYDROGENATION OF RAPESEED OIL. B.N. Tjutjunnikov et al. (Polytech. Inst. of Kharkov). *Maslozir. Prom.* 1973(7), 15-17. One of the causes for difficulties in the hydrogenation of rapeseed oil is the relatively low rate of hydrogenation of erucic acid. Another one of the causes is also the presence of the essence of mustard oil. The rate of the hydrogenation of rapeseed oil is directly correlated with the sulphur content in the oil. However, after refining the oil with acid, hydrogenation is faster than with oil treated with ammonia and alcohol, even if the sulphur contents of the latter are lower. The explanation for this is that the oils refined by different methods contain different sulphur compounds and these have different actions on the catalyst. It has been shown in practice that rapeseed oil stored for a long time in the tank is hydrogenated easier than fresh oil. Elimination of complex gums by sedimentation is the probable explanation. Hydrogenation of rapeseed oil, fresh and stored for different periods, is described in the paper. Some theories are elaborated by the authors to explain the reason for the results obtained. (Rev. Franc. Corps Gras)

STATISTICAL STUDY OF THE PROPERTIES OF SUNFLOWER SEED. V.D. Dratva et al. (Ministry of the Construction of Agricultural Machines of USSR). *Maslozir. Prom.* 1973(7), 7-8. In this work, the authors established a statistical correlation between the following values for the properties of sunflower seeds: size (D, mm), mass of 1000 seeds (A, g on the dry matter), specific weight (p, g/cm<sup>3</sup>), the content of hulls (L, %), and the apparent density (N, g/l). From the data, it can be seen that the size of sunflower seeds varied between 3 and 7.2 mm; the fractions of width between 4 and 5.6 mm predominated. The relationship between the hull content,

## Smalley Committee to offer Aflatoxin Check Meal Series

The AOCS Smalley Committee will offer an Aflatoxin Check Meal Series for worldwide distribution beginning with the 1974-75 season. Tentatively, the first series will consist of 4 cottonseed meal samples and 1 peanut meal sample which will be provided to participants over a period of ca. 5 months for assay by AOCS Official Methods Aa8-71T and Ab6-68, respectively. The subscription fee for this Check Meal Series will be \$35.00.

Due to the inconveniently large oilseed samples of 10-25 kg that would be required to provide a representative sample and the inherent instability of the aflatoxins in ground oilseed meals, it is imperative that the series be provided in the form of an oilseed meal for the present time. By this means, uniform samples with stable aflatoxin content can be provided.

The current U.S. Department of Agriculture, AOCS Smalley Committee, and National Cottonseed Products Association collaborative Aflatoxin Check Meal Series has well illustrated the need for a continuing Smalley Aflatoxin Check Meal Series to help bring about a greater degree of accuracy in aflatoxin assay to laboratories serving the oilseed industry and commodity markets throughout the world.

Those analysts interested in participating in the Smalley Aflatoxin Check Meal Series should write for information or subscription to: Smalley Committee, AOCS, 508 S. Sixth St., Champaign, Ill. 61820.

Any suggestions readers have to aid the Committee in offering an improved program will be appreciated. ■

the mass of 1000 seeds, specific weight, apparent density and size of the seeds follows:  $L = 13.8 + 1.8 D$  ( $r = 0.83$ ),  $A = 17.5 D - 25.6$  ( $r = 0.94$ ),  $p = 0.534 + 1.038/D$  ( $n = 0.93$ ), and  $N = 284 + 644/D$  ( $n = 0.92$ ). Other correlations between the values for the properties of sunflower seed are also given in this paper. (Rev. Franc. Corps Gras)

**CYCLOPROPENIC ACIDS IN COTTONSEED OIL.** K. Kodyrov et al. *Maslozir. Prom.* 1973(4), 11-12. Cottonseed oil from the new varieties of seeds, such as Taskent-1, Taskent-2, Taskent-3 and 108-F, contain malvalic acid. Determined by three methods, the average cyclopropenoic acid content is 1%. If complete extraction in Soxhlet apparatus is done, the content of cyclopropenoic acid in oil is almost doubled. (Rev. Franc. Corps Gras)

**IMPROVEMENT OF THE TECHNOLOGY OF THE EVAPORATION OF SOYBEAN MISCELLA.** V.V. Kljuckin et al. *Trudy VNIIZA 29*, 76-81 (1972). The higher the vacuum in the final stripper column the lower the temperature of the oil: 760 mm Hg - 118°C, 340 mm Hg - 108°C and 40 mm Hg - 96°C. The decrease of the temperature in the final stage of stripping of the miscella produces a lesser quantity of melanophosphatides, from 58.2 to 48 mg/g. If the distillation is done with the higher vacuum, the quality of total tocopherols in the oil is higher (119 mg%/g) than if the distillation is done without vacuum (108 mg%-g). (Rev. Franc. Corps Gras)

**STUDY OF THE INFLUENCE OF THE HUMIDITY OF THE SOYBEAN FLAKES ON THE PROCESS OF TOCOPHEROL EXTRACTION.** V.V. Kljuckin et al. *Trudy VNIIZA 29*, 71-5 (1972). The quantity of tocopherols in the crude soybean oil decreases with the increase of the humidity in the soybean flakes. The highest decrease is when the humidity exceeds 13% to 21%. The degree of the tocopherol extraction is the function of the nature of the solvent. If n-hexane is used, the yield of extracted tocopherols is higher. (Rev. Franc. Corps Gras)

**MODIFICATION OF LIPID QUALITY DURING THE MATURATION AND**

**POST-HARVEST RIPENING OF SOYBEANS.** L.M. Zavodcova et al. *Trudy VNIIZA 29*, 11-15 (1972). The highest quantity and the best quality of lipids are obtained from soybeans that are fully mature at the time of the harvest. The content of nonhydratable phosphatides decreased from 0.08 to 0.0023% in a mature soybean. This is very good for the refining process of soybean oil. If non-mature seeds are harvested, oil quality and the yield of oil from soybean during treatment will be lower. (Rev. Franc. Corps Gras)

**INFLUENCE OF THE HYDROTHERMAL TREATMENT ON THE DEGREE AND THE COMPOSITION OF EXTRACTED LIPIDS.** V.V. Kljuckin et al. *Trudy VNIIZA 29*, 33-6 (1972). Influence of hydrothermal treatment of soybeans before the direct extraction has not been extensively studied. The authors sought conditions of hydrothermal treatment that would give the maximal yield of lipids, especially phospholipids. Optimum conditions found were initial moisture content 9.2%, time of treatment 4 min and steam temperature 133°C. (Rev. Franc. Corps Gras)

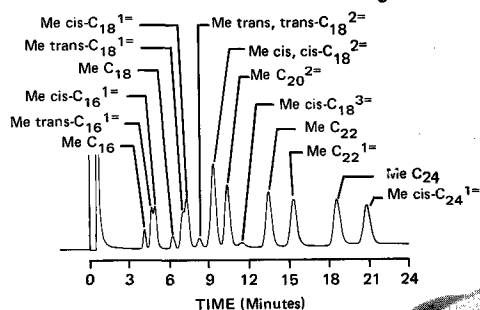
**ELABORATION OF THE TECHNOLOGY OF USING OF THE SUNFLOWER HULLS FOR THE FORAGE AND OTHER PURPOSES.** P. Petrov et al. *Maslosap. Prom.* 1972(4), 1-27. After discussing the chemical composition of sunflower hulls, the authors proposed the utilization of hulls in the following fields: furfural and yeast production (after the hydrolysis of hulls), for forage for animals after it is enriched with some by-products of the oil industry (like gums). (Rev. Franc. Corps Gras)

**CHOICE OF THE METHOD FOR SODIUM SOAP DETERMINATION IN SOLID FATS.** A. Katzer et al. *Tłuszcz. jad.* 17, 186-91 (1973). The methods used for soap determinations give, generally, good results if they are applied on liquid oil. When these methods are used for analysis of the solid fats, the results are too low and are not reproducible. This problem is of special interest if transesterified fats are studied. The authors re-examined different methods, especially those which are simple and relatively fast. The method chosen involves titration at elevated temperature with sulfuric acid. This method is de-

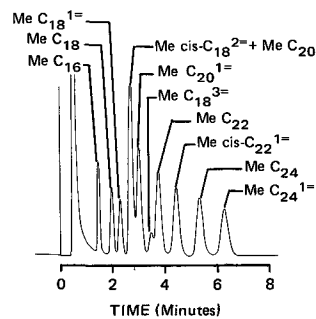
# Discover a new wide-open range in GC phases

A new stationary phase for GC with a polarity - temperature range like no other, SILAR-10C is thermally stable up to 275°C.

Write for further information.



C<sub>16</sub> - C<sub>24</sub> cis-trans isomers  
10% SILAR-10C  
programmed from 180-200°C @ 1°C/min  
6' x 4 mm



C<sub>16</sub> - C<sub>24</sub> fatty acid methyl esters  
10% SILAR-10C @ 220°C  
6' x 4 mm column



Applied Science Laboratories Inc.

P.O. Box 440 / State College, Pa. 16801 / 814-238-2495

scribed in the volume III of the Manual of VNIIZ, Leningrad, 1964. (Rev. Franc. Corps Gras)

OBTAINING OF CACAO BUTTER SUBSTITUTES FOR CHOCOLATE PRODUCTION. L. Strecker et al. *Tluszcze jad.* 17, 117-26 (1973). Regarding cacao butter substitutes produced in the laboratory, products with the best physico-chemical properties were obtained by transesterification of the mixture of 90% of palm kernal oil and 10% of palm oil, completely hydrogenated. (Rev. Franc. Corps Gras)

KINETICS OF THE COUNTERCURRENT EXTRACTION OF COTTONSEED MEAL. R.M. Mirzakarimov et al. *Pishchevaya Tehnol.* 1973(3), 81-2. By changing operating conditions in Lurgi extractor, the authors elaborated a practical regimen for obtaining, at a lower temperature, a high quality cottonseed oil and meal with an oil content less than 1.2%. The optimal conditions for extraction at a lower temperature were established, with a ratio of material going to extraction and solvent of 2:1. Other data regarding this process are also given in the paper. (Rev. Franc. Corps Gras)

ADSORPTION OF TOCOPHEROLS AND STEROLS DURING THE MISCELLA REFINING OF SOYBEAN OIL. N.K. Nadirov et al. *Pishchevaya Tehnol.* 1973(3), 79-80. During bleaching in miscella, the concentrations of  $\alpha$ - and  $\delta$ -tocopherols in soybean oil are practically unchanged;  $\gamma$ -tocopherol is partially adsorbed on the bleaching earth and is oxidized. The adsorption of sterols increases appreciably with increasing quantities of bleaching earth. Lipid extract obtained from the used bleaching earth is rich in unmodified sterols. (Rev. Franc. Corps Gras)

THERMAL STUDY OF SOLID FAT FOR CONFECTIONERY. I.V. Nikonov et al. *Pishchevaya Tehnol.* 1973(3), 38-43. The properties of the solid fat for confectionery obtained from palm kernal oil were determined. The fatty acids composition follows: stearic 20.2%, palmitic 10.5%, myristic 19.4%, lauric 45.3%, capric 2.6% and caprylic 1.6%. Triglycerides of these acids are very different with regard to melting point and molecular dimensions. Quick cooling forms thermodynamically unstable solid solutions. Recrystallization of stable solid fractions occurs slowly at a higher temperature. (Rev. Franc. Corps Gras)

POSITIONAL DISTRIBUTION OF FATTY ACIDS IN LEAF LECITHINS. S.S. Bajwa and P.S. Sastry. *Indian J. Biochem. Biophys.* 9 No 1, 133-4 (1972). Positional distribution of fatty acids in purified lecithins from the leaves of *Amaranthus*, maize, soybean and New Zealand spinach was investigated using snake venom phospholipase A and gas chromatography. Palmitic, linoleic and linolenic acids were the major components in all the lecithin preparations studied, with significant amounts of stearic and oleic acids. Almost all the saturated acids were present in the 1-position of the glycerol moiety, while the 2-position was occupied exclusively by the unsaturated fatty acids. The implications of this finding in the elucidation of biosynthetic pathways of phosphoglycerides and glycolipids in plants are discussed. (World Surface Coatings Abs. No. 376)

THE GLYCOLIPIDS OF OLIVES. E. Vioque and M.P. Maza (Inst. de la Grassa y sus Derivados, Sevilla). *Grasas y Aceites* 24, 226-35 (1973). For the first time glycolipids have been isolated and identified from olives, namely: free and esterified steryl glycosides, mono- and digalactosyl diglycerides, cerebrosides and sulfolipids. The fatty acids esterifying the glycolipids have been studied together with the sterols and sugar constituents of the sterolglycosides. The fatty acids of the glycolipids of the unripe olives are more unsaturated than the fatty acids of glycolipids from the seeds. As in other plants the acids of the monogalactosyldiglycerides are more unsaturated than those of the digalactosyldiglycerides. The glycolipid content of the young olive is about three times greater than the content of the seed.

SURVEY OF PORTUGUESE OLIVE OIL—1970-1971. *Grasas y Aceites* 24, 222-6 (1973). A continuation of the study of Portuguese crude olive oil which was started in the production year 1966-1967. The characteristics of identification and quality of 166 samples were treated statistically.

ANTIOXIDANT COMPOSITIONS. E.R. Sherwin, B.M. Luckadoo, and E.J. Freeman. *Defensive Publication T918,003*. The compositions comprise (A) 60-99% of antioxidant selected from the group consisting of mono-tertiary-butylhydroquinone; propyl, octyl, or dodecyl gallate; and blends of these two with BHA and BHT; (B) 0-34% of an organic acid synergist, including EDTA and its salts; and 0.1-5% of an antifoaming agent consisting of polydimethyl and polydiethyl siloxane having a viscosity of 100-100,000 centistokes at 100 F. When used in frying oils, the compositions are retained in the oil after many fryings at high temperature.

FOOD EMULSIONS CONTAINING MODIFIED PROTEINS. J.H. van Roon (Lever Bros.). *U.S. 3,782,971*. Aqueous solutions having a pH of 4.5-6 and containing particular modified proteins are used in the preparation of edible fat emulsions comprising 80-84% of an edible glyceride and having a continuous water phase. The modified protein is an N-acetyl milk protein containing 20-40% N-acetylamino groups. The modified protein improves the heat stability of acidic oil-in-water emulsions so that emulsions with good keepability can be prepared by pasteurization without the use of preservatives.

AROMATIZING EDIBLE OILS. J.M. Patel (Procter & Gamble). *U.S. 3,783,163*. Edible oils are aromatized by adding the oil to a cryogenic fluid to form a slurry, adding an aroma-bearing frost to the slurry, and allowing the mixture to equilibrate at temperatures above the boiling point of the cryogenic fluid for a period of time sufficient to evaporate the cryogenic fluid leaving a residue of aroma-enhanced oil.

PROCESS AND APPARATUS FOR SPLITTING SOAPSTOCK. R. Gadefaux and J. Klere (Lever Bros. Co.). *U.S. 3,787,460*. Soapstock is split by acid treatment to liberate free fatty acids in the form of acid oil. The reactants are aspirated one into the other, preferably by use of the Venturi principle. In this arrangement, two Venturi pipes, each with its own induction manifold, are arranged in tandem to deliver into a collection vessel. First one reactant liquid and then the other is aspirated through the separate manifolds by action of an aspirating fluid such as the steam serving the system and are thereby intimately admixed with one another. The arrangement minimizes the heavy corrosive effects which result from the use of mechanical mixing devices.

CEDAR POLYPHENOLS AND THIODIPROPIONIC ACID AS ANTIOXIDANTS FOR FATS AND OILS. A. Karchmar (I. T. & T. Corp.). *U.S. 3,874,480*. Mixtures of cedar polyphenols and thiodipropionic acid exhibit synergistic antioxidant effects when added to animal fats and vegetable oils and foodstuffs containing these materials. The amount of the polyphenol component of the

# AOCS Exhibits



48TH ANNUAL AOCS EXPOSITION  
SEPTEMBER 29—OCTOBER 2, 1974

SHERATON HOTEL  
PHILADELPHIA, PENNSYLVANIA

For more details contact:  
**S. M. Gaskins**  
*Exhibit Sales Manager*  
508 South Sixth Street  
Champaign, Illinois 61820

Telephones:  
312-642-0139 (Chicago)  
217-359-8028 (Champaign)

mixture should be at least equal to the amount of thiodi-propionic acid. This antioxidant mixture is effective at concentrations of at least 50 ppm.

EXTRACTION OF OIL FROM OIL BEARING SEEDS. D.W. Finley, H.E. Smith and O.L. Fishwild (Standard Brands, Inc.). *U.S.* 3,786,078. Oil bearing vegetable material having a moisture content below 5% is ground and moisturized to a level of up to 9%. The material is then subjected to mechanical action to rupture the cells containing the oil, and the oil is extracted by use of a solvent.

## • Biochemistry and Nutrition

SERUM LIPIDS, DIETARY INTAKES, AND PHYSICAL EXERCISE IN MEDICAL STUDENTS. L. Balart, M.C. Moore, L. Gremillion and A. Lopez-S. (Dept. Medicine, Louisiana State Univ., New Orleans). *J. Am. Dietetic Assoc.* 64, 42-6 (1974). Serum cholesterol, triglycerides and beta-plus-pre-beta-lipoprotein cholesterol were determined for 104 freshman medical students. Nutrient intakes were calculated from seven day dietary histories, and physical activity was estimated from information supplied by questionnaire. Mean caloric intake was high (3307 Calories), as was fat (147.4 g), while physical activity index was low (work metabolic rate/basal metabolic rate = 1.72). Caloric intake exceeded energy output, and many of the students were overweight. One-third had abnormally high serum lipid levels. Individuals characterized as having high values of beta- and pre-beta-lipoproteins seemed to have lower caloric intakes than the normal subjects. Exercise was negatively correlated with serum triglycerides. A six week exercise program significantly lowered serum lipids and lipoproteins, although no change in weight occurred.

HUMAN BLOOD TRIGLYCERIDES. E. Vioque, H. Murillo and M.P. Maza (Inst. de la Grasa y sus Derivados y Facultad de Medicina, Catedra de Farmacologia y Terapeutica General, Sevilla). *Grasas y Aceites* 24, 269-73 (1973). The lipids of a pooled sample of eleven persons were obtained and the triglycerides isolated by preparative thin-layer chromatography. The triglycerides were studied by means of pancreatic lipase hydrolysis technique and chromatographic methods in order to determine all possible triglyceride types. The main components found were dioleopalmitin, triolein, oleodipalmitin, palmitooleolinolein, and linoleodiolein. There exists a clear similarity between the fatty acids of the triglycerides and the free fatty acids of blood as well as with the fatty acids of adipose tissue showing a potential relationship between them.

UTILIZATION OF NEUTRAL GLYCERIDES AND PHOSPHATIDYLETHANOLAMINE BY THE PHOSPHOLIPASE A<sub>1</sub> OF THE PLASMA MEMBRANES OF RAT LIVER. M. Waite and P. Sisson (Dept. of Biochem., Bowman Gray Schl. of Med. of Wake Forest Univ., Winston-Salem, N.C. 27103). *J. Biol. Chem.* 248, 7985-92 (1973). The phospholipase A<sub>1</sub> solubilized by heparin from the plasma membranes of rat liver can catalyze the hydrolysis of monoglyceride, diglyceride and monoacylglycerophosphorylethanolamine in addition to phosphatidylethanolamine. Furthermore, the enzyme catalyzes the transacylation of the acyl group from position 1 of these glycerides to an acceptor monoglyceride to form diglyceride. Triton X-100 which disperses the lipids reduces transacylation and favors the utilization of water as the acyl acceptor (hydrolysis). Since free fatty acid is not incorporated, the transacylation appears to be direct rather than the combination of hydrolysis and reacylation.

APPRAISAL OF HUMAN VITAMIN E REQUIREMENT BASED ON EXAMINATION OF INDIVIDUAL MEALS AND A COMPOSITE CANADIAN DIET. J.N. Thompson, J.L. Beare-Rogers, P. Erdody, and D.C. Smith (Health Protection Branch, Dept. of Natl. Health and Welfare, Tunney's Pasture, Ottawa, Ontario, Canada K1A 0L2). *Am. J. Clin. Nutr.* 26, 1349-54 (1973). The vitamin E intake of Canadians was investigated to provide information on human requirements. A composite diet, representing the daily per capita consumption of foods in Canada, was prepared and analyzed for  $\alpha$ -tocopherol and polyunsaturated fatty acids (PUFA). The diet furnished 6.4 mg  $\alpha$ -tocopherol per day and the ratio of  $\alpha$ -tocopherol to PUFA was 0.52 mg/g. According to tabulated values, the diet provided (per day) 7.5 mg  $\alpha$ -tocopherol, 130 g fat, 88 g protein, and 2,781 kcal. It was concluded that many Canadians do not consume the recommended intake of 10 to 30 IU. Furthermore, analysis revealed that convenience dinners (24 samples) contained 0.29

# ppb Aflatoxin in minutes!



Velasco Fluorotoxin Meter™ gives direct Aflatoxin answers to one ppb

Uses simple AOAC-approved Velasco technique which eliminates TLC chromatography. Instrument measures fluorescence to end visual estimating. Gives ppb Aflatoxin directly. Accurate, inexpensive, easy to perform by anyone.

Write for free literature today.



**NEOTEC**  
INSTRUMENTS, INC.

6110 Executive Blvd.  
Rockville, Md. 20852  
(301) 770-3525

to 3.49 mg  $\alpha$ -tocopherol with ratios of  $\alpha$ -tocopherol to PUFA of 0.10-3.03 mg/g. The use of the ratio in the assessment of diets was considered to be impractical and many exceptions to the allegedly critical value of 0.6 were apparent. As there is no evidence of deficiency in Canada, it is concluded that the adult's requirement for vitamin E is less than 15 IU/day. It is suggested that the vitamin E/PUFA ratio should not be used as a test of the adequacy of foods and diets.

THE ROLE OF A HIGH FAT DIET IN THE REREPRESSION OF TWO RAT LIVER ENZYMES. C.A. Slayton and B. Szepesi (Natr. Inst., ARS, USDA, Beltsville, Md. 20705). *Proc. Soc. Exp. Biol. Med.* 144, 876-81 (1973). The results of the experiments described herein suggest that the role of a high fat diet in the rerepression of the genes which code for G6PD and ME is to provide either the corepressor(s) or a precursor of the corepressor(s). It appears that this substance is not normally present in rat liver, despite the large accumulation of fat which occurs after starvation and refeeding an inducer diet. Synthesis of the aporepressor(s) or an enzyme system necessary for the formation of the corepressor(s), or both, requires dietary protein but not carbohydrate.

PHOSPHOLIPASE ACTIVITY OF RETINA AND PIGMENT EPITHELIUM. J.G. Swartz and J.E. Mitchell (Depts. of Ophthalmology and Biochem., George Washington Univ. Schl. of Med., Washington, D.C.). *Biochemistry* 12, 5273-8 (1973). The retina proper and pigment epithelium of the bovine eye showed significant phospholipase activity at pH 4.2-4.8 and relatively low activity above pH 8.1. Phospholipases A<sub>1</sub> and A<sub>2</sub> were demonstrated in lysosomal fractions from both structures at the lower pH range while microsomes contained the A<sub>1</sub> form and mitochondria the A<sub>2</sub> form at the alkaline pH. Substrate preference and ionic requirements varied widely within the subcellular fractions. Vitamin A aldehyde and vitamin A alcohol were without effect on phospholipase activity with added substrate but the two compounds differed in their effect on release of fatty acid from endogenous substrates. No significant, consistent phospholipase activity was detected in light-adapted rod outer segments.

REDUCTION OF PLASMA CHOLESTEROL LEVELS IN MALE RETIRED BREEDER RATS BY AN ANABOLIC STEROID, OXANDROLONE. E.