Malvaceae, Convolvulaceae, Gramineae, Amaranthaceae and Polygonaceae families was determined by gas-liquid chromatography. Linoleic acid was predominant in 14 species (36.5 to 76.5%), while all species contained oleic (10.3 to 42.9%), palmitic (6.0 to 22.1%) and stearic (1.2 to 6.3%) acids. Linolenic and palmitoleic acids were found in 13 species, arachidic acid in four species and cyclopropenoic acids in the two species of Malvaceae. Sterols, sterol glycosides and esters, α,α- and α,β-diglycerides and monoglycerides were found in each species. Lipid extracts from four species were separated into five lipid fractions by silicic acid chromatography. Triglycerides were predominant, followed by polar lipids in which phosphatidyl ethanolamine, choline and inositol, digalactosyl diglyceride, and monogalactosyl diglyceride were detected by thin-layer chromatography.

HYDROPEROXIDE OXIDATIONS CATALYZED BY METALS III. EPOXIDATION OF DIENES AND OLEFINS WITH FUNCTIONAL GROUPS. M. N. Sheng and J. G. Zajacek (Res. and Development Dept., ARCO Chem. Co., Glenolden, Penn., 19036). *J. Org. Chem.*, 35, 1839–43 (1970). The molybdenum hexacarbonyl and the vanadyl acetylacetonate catalyzed epoxidations of olefins by organic hydroperoxides have been tried on a series of diolefins and olefins with functional groups. Molybdenum hexacarbonyl was a better catalyst for the epoxidation of all the olefinic compounds except allylic alcohols. Only with allylic alcohols did vanadyl acetylacetonate give higher yields of epoxide. A mechanism has been proposed for that allylic alcohol vanadium catalyzed reaction.

SEPARATION OF THE OIL AND PROTEIN FRACTIONS IN COCONUT (COCOS NUCIFERA LINN.) BY FERMENTATION. C. L. Puertollano, J. Banzon (College of Agr., Univ. of Philippines College, Laguna, The Philippines) and K. H. Steinkraus (Cornell Univ., Geneva, N.Y., 14456). *J. Agr. Food Chem.* 18, 579–84 (1970). Patented and published methods of separating oil and protein from coconut meat by fermentation were studied and combined to devise a better process. Coconuts available commercially vary in maturity and length of storage before processing, and varied in their response to fermentation processing. Approximately 60% of the milks produced from individual coconuts showed a breaking of the emulsion when fermented under controlled conditions. Forty percent failed to break, indicating that some factor(s) responsible for the coconut milk emulsion stability remained uncontrolled during fermentation. The optimum dilution range for rapid fermentation of coconut milk and separation of the oil and protein was found to be 1:1 to 1:2 (w/v) coconut meat/water. *Lactobacillus plantarum* effected more rapid separation of oil than *Lactobacillus delbrueckii*. The fermentation progressed best under microaerophilic conditions at 40–50C. The fermentation was successful in breaking the emulsion at a relatively broad range of pH and titrable acidity.

THE EFFECTS OF STORAGE CONDITIONS OF THE LIPID COMPOSITION OF COMMERCIALLY PREPARED ORANGE JUICE. S. Nagy and H. E. Nordby (Fruit and Vegetable Products Lab., Winter Haven, Fla. 33880). *J. Agr. Food Chem.* 18, 593–97 (1970). An examination of the neutral lipid and polar lipid fractions of chilled orange juice was conducted upon storage over a 16-month period at 40 and 85F. The neutral lipid content of both 40 and 85F juice increased over 16 months and was due to fatty acids being hydrolyzed primarily from phospholipids. Free fatty acids increased three-fold in 40F juice and eight-fold in 85F juice. Phospholipid phosphorus decreased 69.6% while phosphatidyl choline, -ethanolamine, -serine, and -inositol showed decreases ranging from 46 to 91% at 85F.

SEPARATION BY GEL CHROMATOGRAPHY OF NATURALLY OCCURRING PHOSPHATIDYLCHOLINE MIXTURES ACCORDING TO NUMBER OF ETHYLENIC LINKAGES. R. J. King and J. A. Clements (Cardiovascular Res. Inst., Univ. of Calif., San Fran. Med. Center, San Francisco, Calif. 94122). *J. Lipid Res.* 11, 381–85 (1970). This paper describes a procedure for the separation of lecithins according to the number of ethylenic bonds in their fatty acid residues. The procedure uses a column of alkylated dextran (Sephadex LH-20) eluted with an organic solvent system, the unsaturated lipids being separated as their mercuric acetate addition compounds. The system is capable of resolving at least four species of lecithin, and the intact lecithin molecules can be recovered for further study. The chromatographic system has been tested with lecithin derived from dog lung, rat liver and hen's egg.

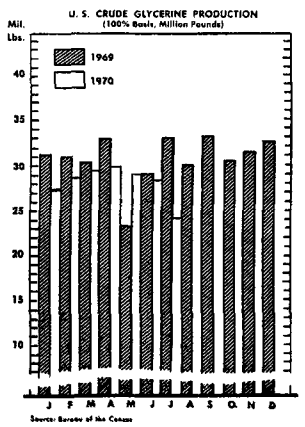
PLANT INTRODUCTION OF MAIZE AS A SOURCE OF OIL WITH UNUSUAL FATTY ACID COMPOSITION. M. D. Jellum (Dept. of

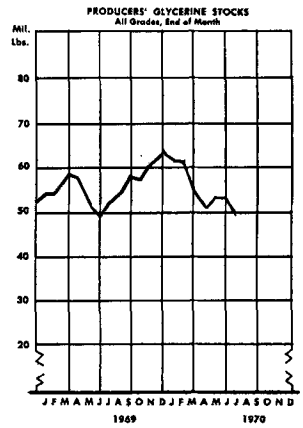
(Continued on page 481A)

Crude Glycerine Production

According to the U.S. Department of Commerce, production of crude glycerine (including synthetic) for July 1970 totalled 23.9 million pounds, down seasonally 4.5 million pounds from June (revised), and down 9.0 million pounds from July 1969 (the highest July figure of record).

At the end of July, producers' stocks of crude and refined glycerine totalled 49.4 million pounds, down 3.9 million pounds from June (revised), and down 3.5 million pounds from the end of July 1969.

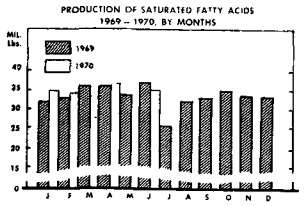


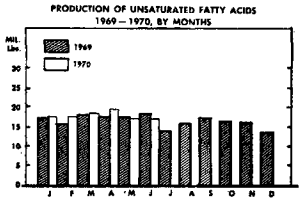


The June 1970 crude and refined glycerine production and stocks figures were revised as follows, in thousand pounds, 100% basis: production—crude, from 28,264 to 28,452; production—refined, from 28,817 to 28,847; stocks—crude, from 26,438 to 26,115; stocks—refined, from 27,347 to 27,173. These changes have lowered the total stocks figure for the end of June from 53.8 to 53.3 million pounds, and raised disappearance from 23.7 to 24.4 million pounds.

Tall Oil Fatty Acids Statistics

Production of animal, vegetable, and marine fatty acids totalled 51.4 million pounds in June 1970, up 2.2 million pounds from May. Inclusion of tall oil types raised the overall June production level to 82.7 million pounds, compared with 85.9 million pounds for May.





Disposition of fatty acids amounted to 59.1 million pounds in June, up 0.9 million pounds from May. Including tall oil fatty acids, June disposition totalled 91.5 million pounds, compared with 93.6 million pounds in May.

Stocks of fatty acids other than the tall oil types, amounted to 36.8 million pounds on June 30th, up 0.8 million pounds from the end of May (revised).

Source: Fatty Acid Producers' Council, 485 Madison Ave., New York, N.Y. 10022.

• *Obituary*

We have just been informed of the death of J. B. Brown ('37). He was a retired Professor Emeritus, Dept. of Physiological Chemistry at Ohio State University, Columbus, Ohio.