deteriorated until there was death of the heart. Equimolar albumin incubated with the fatty acid solutions prevented this toxic effect. The time of incubation was important to the blocking of toxicity for stearic acid but not for oleic acid. No incubation period was required to prevent the toxicity of the oleic acid when combined with albumin. This suggested a difference in the rate of albumin-fatty acid binding for different fatty acids. Unbound fatty acids, saturated or unsaturated, were extremely toxic to the heart.

PHOSPHOLIPID CHANGES IN THE EYE AND AORTA OF CHOLESTEROL-FED RABBITS. H. G. Roscoe and B. A. Riccardi (Dept. of Metabolic Chemotherapy, American Cyanamid Co., Pearl River, N.Y. 10965). *J. Atheroscler. Res.* 10, 123–130 (1969). The phospholipid changes which occur in the diseased cornea, iris and atherosclerotic intima from rabbits fed 1% cholesterol for 2 or 3 months, were studied. A significant correlation between total cholesterol and total phospholipid was found in each of the three tissues at both time intervals studied. The composition of the tissue phospholipid, which accumulated as a result of cholesterol feeding, was compared to that of the plasma in animals fed 1% cholesterol for 3 months. The distribution of phospholipid in the diseased cornea was essentially the same as that found in the plasma, both being characterized by a high percentage of lecithin (77.5 and 67.4%, respectively). On the other hand, the phospholipids obtained from the diseased iris and atherosclerotic intima contained a high percentage of sphingomyelin (35.0 and 37.7%, respectively) and lower percentage of lecithin (34.0 and 40.1%, respectively) than did the plasma (sphingomyelin = 15.8% and lecithin = 67.4%). The decrease in percent of tissue lecithin was not a result of increase in sphingomyelin since the concentration of the two phospholipids increased in both tissues. These data suggest that the mechanism of lipid accumulation in the atherosclerotic intima and the diseased iris may be similar and may not be the result of simple lipid infiltration from the plasma.

METABOLISM OF SULFATED MUCOPOLYSACCHARIDES IN VITAMIN A DEFICIENCY. C. A. Pasternak and D. B. Thomas (Dept. of Biochem., Univ. of Oxford, Oxford, England). *Am. J. Clin. Nutr.* 22, 986–990 (1969). Experiments with rats and with neoplastic mast cells show that vitamin A is not required for the synthesis of sulfated mucopolysaccharides, but that deficiency may lead to conditions which favor the breakdown and increased turnover of certain cell constituents.

THE INFLUENCE OF MYRISTIC ACID ON DIETARY FATS ON SERUM CHOLESTEROL. S. Mukherjee, R. Dutta and C. Bandyopadhyay (Lab. of Lipid Res., Dept. of Applied Chem., Univ. of Calcutta, Calcutta, India). *J. Atheroscler. Res.* 10, 51–4 (1969). The effect of dietary myristic acid on serum cholesterol of rats was studied using mixtures of trimyristin and groundnut oil. Incorporation of trimystin in the oil resulted in marked rise in serum cholesterol of rats over the control group fed groundnut oil. A direct relationship between serum cholesterol and the myristic acid content of dietary fat was not apparent. Thus the cholesterol response to a diet containing an interesterified fat, prepared from a mixture of trimyristin and groundnut oil, was lower than that obtained by administering the same fat mixture without treatment.

INSULIN-RECEPTOR INTERACTION IN ISOLATED FAT CELLS. I. THE INSULIN-LIKE PROPERTIES OF P-CHLOROMERCURIBENZENE SULFONIC ACID. T. Minemura and O. B. Crofford (Dept. of Med. and Physiol., Vanderbilt Univ., Nashville, Tenn. 37203). *J. Biol. Chem.* 244, 5181–5188 (1969). Suspensions of fat cells were prepared from rat epididymal adipose tissue by digestion of the tissue with crude bacterial collagenase. One portion of each suspension was exposed to p-chloromercuribenzenesulfonic acid (CMS), washed, and then incubated in Krebs-Ringer-bicarbonate buffer. A second portion, the control, was not exposed to CMS, but it was otherwise treated identically. Acceleration of glucose transport was estimated from the rate of conversion of glucose-^{14}C to $^{14}CO_2$ and ^{14}C-labeled lipids. Inhibition of the lipolytic action of adrenocorticotropic hormone (ACTH) was evaluated by measuring (a) the cyclic 3′,5′-AMP concentration of the cell suspensions and (b) the rate of release of glycerol into the incubation medium.

THE STIMULATION OF INTESTINAL CHOLESTEROGENESIS IN THE RAT BY PHENOBARBITAL. W. R. J. Middleton and K. J. Isselbacher (Dept. of Med., Harvard Med. School, Boston, Mass. 02114). *Proc. Soc. Exp. Biol. Med.* 131, 1435–37 (1969). The administration of phenobarbital to rats (80 mg/kg/day for 5

(Continued on page 22A)

AOCS HONORED STUDENT PROGRAM CALL FOR NOMINATIONS

R. T. Holman, Chairman of the AOCS Honored Student Award Program, has issued a call for nomination of outstanding graduate students in the field of Fats, Oils and Lipids.

The Honored Student Program was established in 1963 under the direction of the AOCS Education Committee. The Program awards to selected students an all-expense paid trip to attend AOCS National Meetings.

Several awards will be conferred in 1970 and all will be made for attendance at the ISF-AOCS World Congress which will be held in Chicago, September 27–October 1, 1970. Foreign students will be nominated by their respective national organizations and need not apply directly.

Professors are urged to nominate the most promising students. Nominations are to be submitted before March 1, 1970. Forms are available upon request from R. T. Holman, The Hormel Institute, 801 16th Ave. N.E., Austin, Minnesota 55912.

Glandless Cottonseed Flour Developed

A light-colored glandless cottonseed flour, with many potential food applications, was produced on October 27–28 at the Producers Cooperative Oil Mill in Oklahoma City, Oklahoma.

The test was conducted under the supervision of the National Cottonseed Products Association and engineers of the Crown Iron Works Company in collaboration with personnel of the Southern Utilization Research and Development Division of the USDA in New Orleans and the Oilseed Products Research Center at Texas A&M University. A number of interested observers were present, including cotton breeders and producers, oil mill operators, equipment manufacturers, and representatives of the food industry, as well as a representative from the Research Institute of Cotton in Paris, France.

The study was conducted at the Oklahoma City Mill, among other reasons, because of its capability for desolventization without the addition of steam which denatures the protein and limits food end use flexibility. The glandless cottonseed extracted was certified planting seed of the 'Watson GL 16' variety which was purchased from Rogers Delinted Cottonseed Company, Waco, Texas.

The results of the test showed that a light-colored, nonheat denatured cottonseed protein suitable for use by the food industry as a low-cost, high-quality protein source for human foods, could be produced in a commercial oil mill as it had already been produced on a laboratory and pilot plant scale by the USDA and Texas A&M University. From preliminary laboratory analyses, the flour produced would appear to meet the food industry's stringent requirements for functionality. Those associated with the study report that all preliminary results indicate that it is commercially feasible to produce, in such a commercial oil mill, a cottonseed protein product which has special value to the food industry.