

ANNOUNCEMENT

1970-71

SMALLEY CHECK SAMPLE PROGRAM

The Smalley Committee annually offers a number of Check Sample Series in various analytical categories. Interested analysts should write to Smalley Committee, AOCS, 35 E. Wacker Drive, Chicago, Illinois 60601, prior to July 15, 1970 for order forms and complete information, which will be distributed before each series begins.

The following Check Sample Series (the number of samples being shown in parenthesis) are offered:

Cottonseed (10)	Oilseed Meals (15)	Cottonseed Oil (4)
Soybeans (10)	Edible Fats (5)	Soybean Oil (4)
Peanuts (7)	Drying Oils (6)	Copra (4)
Safflower Seed (7)	Tallow & Grease (5)	N.I.O.P. Fats & Oils (5)
Gas Chromatography (fatty acid composition) (6)		
Cellulose Yield (cotton linters) (10)		

Additional series will be offered should sufficient interest be indicated. Please advise the Smalley Committee of series you feel would be of value.

R. T. Doughtie, Jr., Chairman
Smalley Committee

ABSTRACTS: BIOCHEMISTRY AND NUTRITION

tuberculostearic acid (10-methylstearic acid) was catalyzed by extracts of *Mycobacterium phlei*. This process involved two reactions of the olefinic fatty acid chain of phospholipids. The chain was first alkylated at the 10-carbon to give a methylene group, which was subsequently reduced to a methyl group. The first reaction could be measured by using S-adenosyl-methionine-methyl-¹⁴C. The enzyme was found in the supernatant fraction when extracts of cells broken down by sonic oscillation were subjected to centrifugation at 100,000 g. S-Adenosyl-L-methionine was the only effective donor of the 1-carbon unit. Phosphatidylglycerol, phosphatidylinositol and phosphatidylethanolamine were substrates for the reaction, and both 16- and 18-carbon chains were alkylated although only the Δ^9 -olefinic chains appeared to be converted.

THE ENZYMIC SYNTHESIS OF FATTY ACID METHYL ESTERS BY CARBOXYL GROUP ALKYLATION. *Ibid.*, 709-13. The reaction was studied by incubation of fatty acid with S-adenosylmethionine-methyl-¹⁴C and isolation of the labeled ester. This was characterized by thin-layer and gas-liquid chromatography and by isolation of labeled methanol from alkaline hydrolysates of the ester. Of several substrates tested only S-adenosylmethionine was an effective methyl donor ($K_m = 2.5 \times 10^{-6}M$) and oleic acid was the most effective fatty acid acceptor ($K_m = 1.3 \times 10^{-3}M$). Some methyl ester was formed when phospholipids were added to the incubation mixture, presumably because lipase action liberated fatty acids which could serve as substrates.

RAPESEED PRESSCAKE. XV. DEGRADATION OF SULFUR COMPOUNDS DURING PROCESSING OF THE PRESSCAKE. A. Rutkowski and H. Kozłowska (Dept. of Food Technol., Agricultural Univ. of Olsztyn, Olsztyn, Poland). *Oléagineux* 24, 687-90 (1969). The 5-vinyl-2-oxazolidinethione thiocyanates produced by hydrolysis of the goitrogenic thioglucosides are heat-labile. Heat treatment (100-125°C for 1 hour) of the rapeseed presscake lead to a marked drop in their concentration. This treatment did not affect the isothiocyanates, whose level can be reduced by steam stripping. The conditions used in the desolventizing-toasting process enable a presscake of satisfactory quality to be obtained.

EFFECT OF DIETARY LIPIDS ON THE RATES OF SYNTHESIS OF NUCLEIC ACIDS AND OF DEVELOPMENT OF ADIPOSE TISSUE. J. Raulin (Unité U 56 de l'INSERM, Hôpital Parrot, 78 rue de General Leclerc, 94-Bicêtre). *Rev. Franc. Corps Gras* 16, 767-70 (1969). In the rat, the size of the adipose cells increased both with the quantity of lipids fed and also with the hardness of the fat. In animals of the same age, having the same amount of adipose tissue, the number of adipocytes was greater when the diet was richer in polyunsaturated fatty acids (from sunflower oil) and less when the dietary lipids were more saturated (i.e., lard). The amount of DNA in the perigenital tissue was greater when the diet contained sunflower oil and lower when the diet contained lard. Using radioactive precursors, the author found that the specific activity of the adipose subcellular particulates (nucleus, mitochondria) depended on the nature of the dietary lipid. In general, the rate of synthesis (or breakdown) and the development of adipose tissue appeared to be closely related to the composition of dietary lipid.

INFLUENCE OF DIETHYLSTILBESTROL ON THE TURKEY WITH SPECIAL REFERENCE TO HISTOLOGICAL CHANGES IN THE AORTA. L. M. Krista, J. H. Sautter and P. E. Waibel (Depts. of Animal Sci., and Vet. Pathol., Univ. of Minnesota, St. Paul, Minn. 55101). *Poultry Sci.* 48, 1961-68 (1969). Physiological and metabolic changes were induced by DES treatment. Even though distinct morphological differences are hard to establish, the levels of DES could be related to changes in body weight, blood pressure, carcass composition, general conformation and secondary sex characteristics. The lowest level of DES did not influence body weight, blood pressure or aortic rupture, but an increase in body fat and liver size was observed. The medium level of DES resulted in a significant reduction in weight gain at 12 weeks of age, a significant decrease in blood pressure at eight weeks of age and a significant increase in aortic rupture, plaque formation and degeneration. The highest level of DES had an obvious toxic effect on the birds as indicated by a debilitated appearance and depressed weight gains by six weeks of age. Morphological changes due to

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