

artery disease. The fact that elevated triglyceride concentration is more closely associated with coronary artery disease than is serum cholesterol concentration, particularly after age 50, supports the possibility that over-nutrition in general rather than an increased intake of dietary fat may be responsible for the increased incidence of coronary artery disease.

**LIPIDS OF CANCEROUS TISSUES. III. SPECULATION OF THE CAUSE OF CANCER GENERATION FROM VIEWPOINT OF FAT CHEMISTRY.** Kazuo Fukuzumi (Nagoya Univ., Nagoya). *Yukagaku* 14, 54-8 (1965). Experimental studies revealed that *trans-trans* or *cis-trans* conjugated diene hydroperoxide existed in the lipids from the tissue of bronchial carcinoma and from cancerous pleural fluid. From these facts and other literatures into consideration, a hypothesis is proposed that the cancer is generated due to oxidized lipids accumulating in the living body. The reason why Japanese suffer more from gastric and liver cancers than American or English may be due to the difference of food habits. Japanese suffer less from lung cancer than American or English due possibly to the difference of living circumstances. The decrease in catalase activity in cancer, generation of cancer by radiant rays and production of cancer by arsenic are explained by this hypothesis. Thus, it may afford a general understanding of cancer generation. Inhibition of  $\beta$ -oxidation in cancerous tissue is also explainable by the hypothesis.

**HYPERCHOLESTEROLEMIA IN CHICKS INJECTED WITH  $\beta$ -ESTRADIOL.** C. Whiteside, H. Fluckiger, J. Longenecker, J. Barboriak and H. Sarett (Dept. of Nutr. Res., Mead Johnson Res. Center, Evansville, Ind.). *J. Atheroscler. Res.* 5, 1-8 (1965). Injection of  $\beta$ -estradiol in 1-wk.-old White Leghorn cockerels resulted in marked increases in plasma cholesterol and phospholipids similar to findings in 4-wk.-old chicks. Liver weights and levels of liver lipids were increased as much as twofold by  $\beta$ -estradiol injection. The ratios of  $\beta/\alpha$ -lipoproteins were increased much more in the 1-wk.-old chicks. *In vitro* incorporation of acetate- $C^{14}$  into cholesterol was highest on the second day following injection of  $\beta$ -estradiol in 1-wk.-old chicks, while peak plasma cholesterol levels occurred on the 6th day. The rate of acetate- $C^{14}$  incorporation into cholesterol was still about 10 times the normal rate on the 6th day. Increases in plasma lipids and rate of acetate- $C^{14}$  incorporation into cholesterol by liver in these chicks were greater with 5 mg  $\beta$ -estradiol than with 2.5 mg. The use of a stock diet or of a fat-free purified diet for the chicks did not significantly influence the findings.

**SEASONAL VARIATION IN THE RESPONSE OF CHICKS TO DIETARY CHOLESTEROL.** C. Whiteside and H. Fluckiger (Dept. of Nutr. Res., Mead Johnson Res. Center, Evansville, Ind.). *Poultry Sci.* 44, 257-59 (1965). In the routine use of cholesterol-fed White Leghorn cockerels for testing hypocholesteremic agents, marked changes in the response of the chicks to dietary cholesterol were observed among groups hatched on various dates. These findings prompted a study of other factors which might be related to season of hatch and response of chicks to dietary cholesterol.

***In Vitro* INCORPORATION OF RADIOPHOSPHORUS INTO THE PHOSPHATIDES OF NORMAL HUMAN BLOOD CELLS.** M. Westerman and W. Jensen (Dept. of Med., Univ. of Pittsburgh School of Med., Pittsburgh). *Proc. Soc. Exp. Biol.* 118, 315-19 (1965). The incorporation of  $P^{32}$  into the phosphatides of the formed elements of normal human blood has been measured. A characteristic pattern was described for erythrocytes, leukocytes and platelets. Radiophosphorus is incorporated into red cell phosphatidic acid. The variable and high rates of incorporation of  $P^{32}$  into certain phosphatides of red cells, white cells and platelets would indicate the necessity of assessing this function by these cells when making such measurements in whole blood.

**FATTY ACID DIGESTIBILITY IN LAYING HENS FED YEAST CULTURE.** L. Tonkinson, E. Gleaves, K. Dunkelgod, R. Thayer, R. Sirny and R. Morrison (Okla. State Univ., Stillwater, Okla.). *Poultry Sci.* 44, 159-64 (1965). Five experiments were made to test the effect of Yeast Culture and lecithin on the fat digestibility in rations fed to laying hens. Corn oil, tallow and Safflower were the three types of fat added to the rations in the various experiments. A cross-over design was used in the five experiments, with the treatments being reversed at the end of 6 weeks and then continued for an additional 6 weeks. Fecal samples were collected at the end of the fourth, sixth, tenth and twelfth weeks. The feed and feces were analyzed for fatty acids, and digestibility was determined by the chromic oxide technique. Comparisons of fat digestibility were made between the fourth and tenth weeks and between the sixth and twelfth weeks. The results indicate that Yeast Culture and lecithin had beneficial effects upon the digestibility of tallow, both separately and in combination.

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• *New Products*

ALOE SCIENTIFIC DIVISION OF BRUNSWICK, St. Louis, Mo., has introduced the new Wide Range Precision "Speegrav" for photoelectric determinations of specific gravities of liquids within the range of 0.5500 to 3.0500 which do not attack glass.

E. H. SARGENT & Co., Chicago, Ill., has released the Model DR pH Meter (Digital Direct Reading). It combines the explicit accuracy of a digital read-out with the electrical accuracy of a precise potentiometer.

TRUE-CUT PRODUCTS, INC., Goleta, Calif., offers a new design in a fluid sampler, for automatic sampling under difficult conditions. It is so designed that each sample segment is of exactly the same volume, regardless of the stream pressure, temperature or viscosity.

IONICS RESEARCH, INC., Houston, Texas, offers a flow programmer that shortens analysis time and improves resolution of complex mixtures. It may be used as a substitute for an adjunct to conventional programming devices.

INFOTRONICS CORP., Houston, Texas, is introducing a G-10 digital peak corrector and scaler for accurate correction or weighting of individual peak areas in chemical analysis.


WATERS ASSOCIATES, Framingham, Mass., announces the availability of the new Model R-4 Laboratory Liquid Chromatography Detector Assembly. This system includes a flowing reference Continuous Differential Refractometer with maximum sensitivity of 0.0000001 refractive index units.

APPLIED SCIENCE LABORATORIES, INC., State College, Pa., announces the availability of the SIL-PREP kit. The kit includes 20 ampoules, each containing 1 cc of a mixture of 3 parts hexamethyldisilazane, 1 part trimethylchlorosilane and 9 parts pyridine. The kit precludes the need to become involved in mixing these corrosive agents.

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