

chondria and microsomes. An initial concentration of 3mM NAD delayed the onset of decline in oxidation by combinations of mitochondria and microsomes beyond that observed with an initial NAD concentration of 1mM. The delaying effect due to extra NAD was more pronounced in the combination of vitamin E-supplemented mitochondria and microsomes.

**METHODS FOR ISOLATION AND ENUMERATION OF LIPOLYTIC ORGANISMS.** T. F. Fryer, R. C. Lawrence and B. Reiter (Nat. Inst. for Res. in Dairying, Shinfield, Reading, England). *J. Dairy. Sci.* 50, 477-84 (1967). Two double-layer techniques for detecting lipolytic organisms are described in which the organisms are grown on nutrient agar overlaid on either tributyrin agar or a thin layer of milk fat saturated with Victoria Blue. Advantages of these methods are that the colonies can be isolated after detection, lipolysis can be followed from beginning of incubation, and their is no toxic action by dyes or substrates. The tributyrin emulsion assay has the further advantages that its sensitivity can be altered by varying the concentration of substrate, the organisms can be grown if necessary on a carbohydrate medium, and apparent inhibition of lipolysis as observed with Victoria Blue milk fat does not occur.

**THE EFFECT OF PROLONGED INCUBATION ON LIPID SYNTHESIS BY RAT ADIPOSE TISSUE.** A Fessler, D. Rubinstein and J. C. Beck (Dept. of Biochem., McGill Univ. and Div. Endocrinol. and Metabol., McGill Univ. Clinic, Royal Victoria Hosp., Montreal, Canada). *J. Biol. Chem.* 242, 1462-5 (1967). Prolonged incubation (6 hours) of adipose tissue from fed and 48-hour-fasted rats resulted in an increased rate of synthesis of fatty acids and glyceride glycerol from glucose uniformly labeled with <sup>14</sup>C. However, lipogenesis from acetate-1-<sup>14</sup>C was increased by prolonged incubation from fasted animals only. These changes in the rate of lipid synthesis were not attributable to alterations in the content of free fatty acid in the tissue during incubation.

**SUPPLEMENTING RATIONS WITH TOCOPHEROL AND ETHOXYQUIN TO INCREASE OXIDATIVE STABILITY OF MILK.** W. L. Dunkley, M. Ronning, A. A. Franke and J. Robb (Depts. of Food Science and Technol. and of Animal Husbandry, Univ. of Calif., Davis). *J. Dairy Sci.* 50, 492-9 (1967). A Latin-square change-over feeding trial was conducted to study the feasibility of supplementing rations with antioxidants to aid in practical control of oxidized flavor in milk. Ethoxyquin supplement, at 0.0125% of the dry matter intake, caused a slight increase in milk tocopherol ( $P < 0.1$ ) and in oxidative stability of the milk ( $P < 0.5$ ) as measured by the TBA test. Determinations of ethoxyquin by a fluorimetric method indicated that ethoxyquin was present in the milk of three cows that were fed the antioxidant for seven days at 0.015% of dry matter intake. Supplementary dl- $\alpha$ -tocopheryl acetate, fed at 0.0025% of tocopherol in the dry matter, increased the concentration of tocopherol in the milk ( $P < 0.01$ ), the oxidative stability of the milk ( $P < 0.01$ ) by both TBA test and flavor scores) and of the milk fat ( $P < 0.01$  by induction period test). Supplementing cows' rations with tocopherol is a practical method of delaying the development of oxidized flavor in milk.

**UTILIZATION OF XANTHOPHYLLS FROM NATURAL SOURCES BY THE CHICK.** P. N. Dua, E. J. Day, J. E. Hill and C. O. Grogan (Poultry Science Dept., Mississippi State Univ., State College, Miss.). *J. Agr. Food Chem.* 15, 324-28 (1967). Studies were conducted with chicks to compare the relative utilization of xanthophylls from dehydrated alfalfa meal, corn gluten meal, commercial yellow corn, and new strains of high-xanthophyll corns. Both commercial and a new strain of high-xanthophyll corn were equally effective, but they produced greater pigmentation than alfalfa meal and corn gluten meal when each of these ingredients was used to furnish comparable dietary xanthophyll levels. No significant differences among dietary treatments were shown in the absorption of total xanthophylls when the output of these pigments in the feces was measured. Increasing the dietary xanthophyll levels resulted in a linear increase in the skin and serum xanthophylls; per cent absorption of xanthophylls was negatively correlated with the dietary xanthophyll levels. Strains of corn having different amounts of main individual pigments, lutein and zeaxanthin, were essentially similar in their pigmenting effect.

(Continued on page 322A)

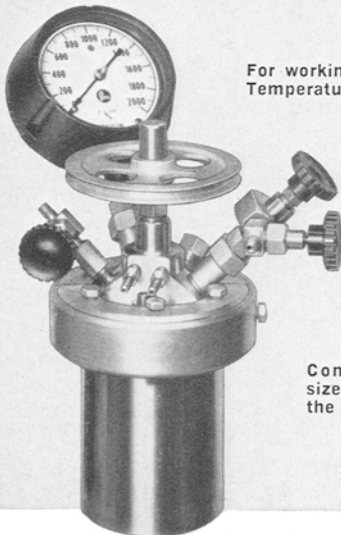
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