

Proceedings of the Iowa Academy of Science

Volume 40 | Annual Issue

Article 48

1933

The Role of Liver in Growth, Reproduction and Lactation

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Recommended Citation

Smith, H. Gregg and Seegers, Walter H. (1933) "The Role of Liver in Growth, Reproduction and Lactation," *Proceedings of the Iowa Academy of Science*, 40(1), 109-110.

Available at: <https://scholarworks.uni.edu/pias/vol40/iss1/48>

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THE CARBOARYLOXY RADICAL IN THE MIGRATION OF ACYL FROM NITROGEN TO OXYGEN IN ORTHO AMINOPHENOL DERIVATIVES

L. CHAS. RAIFORD AND G. O. INMAN

It has been shown, in general, that only one acetyl-benzoyl derivative of ortho aminophenols can be prepared, regardless of the order in which the acyl groups are introduced, and that in this product the benzoyl radical is always found attached to nitrogen.

In the recent study of mixed diocyl derivatives of ortho aminophenols in which one of the radicals was the carboaryloxy group, attempts to determine the structure by means of hydrolysis with alkali caused the formation of a carbonylaminophenol.

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THE ROLE OF LIVER IN GROWTH, REPRODUCTION AND LACTATION

H. GREGG SMITH¹ AND WALTER H. SEEGER

Alcohol-extracted beef liver was fed to albino rats as the only source of protein in a ration adequate in the recognized factors necessary for normal nutrition, the vitamins being supplied by yeast, cod liver oil and hydrogenated cottonseed oil (Crisco); the latter furnished the fat of the basal diet. The ration was found to be inadequate for optimum growth, reproduction and lactation. Supplementing the basal diet with 0.5 g. of raw liver or replacing the extracted-liver of the basal diet with whole dried liver greatly increased the growth rate and improved lactation.

When 300 mg. of a tested yeast concentrate (50 to 75 mg. adequate) or wheat germ oil was added to the diet there was no significant improvement in growth or lactation. When one gram of yeast was fed there was only slight improvement, not significant in comparison to the effect of raw or whole dried liver.

¹ Deceased.

The influence of whole liver does not reside in its protein or fat content since growth and lactation were not aided by supplementing the extracted liver diet of a like number of animals with fat free liver or liver fat equivalent to 0.5 g. of whole dried liver.

A water-alcohol soluble ether insoluble fraction of the liver led to no improvement of the basal diet. A water insoluble ether insoluble fraction fed in amounts equivalent to two grams of raw liver (12.5 mg. daily) is giving conclusive results. Material prepared according to the method described by Mapson² has been tested, and found to be somewhat active.

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SOME PROPERTIES OF VITAMIN E CONCENTRATES

H. S. OLCOTT

Preparations of vitamin E were obtained from lettuce and from wheat germ oil by fractional crystallizations of the unsaponifiable lipids. Still further concentrated fractions were obtained from the lettuce unsaponifiable lipids by fractional distillation in vacuo. The fraction collected from 190-220° (0.1 mm.) was the most active. After the removal of traces of sterols and other solid alcohols by crystallization from acetone, 10 mg. were sufficient, when fed to a female rat deficient in vitamin E, to allow the birth of a normal litter. Concentrates so obtained were resin-like material which would not crystallize. Some of the physical and chemical properties were determined. The vitamin is not destroyed by acetylation, benzoylation, or mild hydrogenation but is destroyed by bromination.

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THE AVAILABILITY OF INDOLE DERIVATIVES FOR SUPPLEMENTING DIETS DEFICIENT IN TRYPTOPHANE

LYLE C. BAUGUESS AND CLARENCE P. BERG

Interest in the possibility of replacing essential amino acids in

² Mapson, L. W., *Biochem. J.* 26, 970 (1932).