

For this study a total of 64 rats was employed, 27 controls and 37 pathological animals. In Tables I and II are submitted typical illustrations representative of the remainder of the group.

TABLE II.
Lipid Metabolism of Blood in Vitamin A Deficiency (Cholesterol).

Animal No.		Wt. gm.		Exp. Period	Cholesterol (mg. per 100 cc.)	
P	C	Init.	Final	(Days)	Range	Ave.
♀ 8821		85	84	30	69-100	82
	♀ 8822	90	155	30	70-104	89
♂ 8823		90	133	25	76-94	85
	♂ 8824	83	181	25	71-90	82
♂ 8825		67	93	29	71-106	80
	♂ 8826	60	180	29	68-94	81
♀ 8831		92	134	30	67-92	77
	♀ 8832	103	170	30	69-86	78

The pathological states of the animals during the advanced stages of the avitaminosis were associated with loss of weight, severe xerophthalmia and pneumonia, but as shown in Tables I and II the concentration of the blood fatty acids, cholesterol, and phospholipids fall within the same range as that of the controls, which made excellent growth without any apparent symptoms of vitamin A deficiency.

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Avitaminosis. XV. Effect of Vitamin D Deficiency on Concentration of Lipids of Blood of Albino Rat.*

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In this investigation a total of 48 rats was employed, 16 controls and 32 pathological animals. The dietary technique has been described.¹

The blood determinations were made once weekly and the experimental period lasted 30 to 40 days.

In Tables I and II are submitted typical illustrations representative of the remainder of the group.

* Research paper No. 272, Journal Series, University of Arkansas.

¹ Sure, B., and Kik, M. C., *Proc. Soc. Exp. Biol. and Med.*, 1931, **28**, 496.

TABLE I.
Lipid Metabolism of Blood in Vitamin D Deficiency
(Fatty Acids and Phospholipids)
P—pathological; C—control.

Animal No.		Wt. gm.		Exp. Period (Days)	Fatty Acids (mg. per 100 cc.)		Phospholipids (mg. per 100 cc.)	
P	C	Init.	Final		Range	Ave.	Range	Ave.
♂ 8773		43	57	35	218-262	243	197-248	222
	♂ 8777	39	64	35	236-262	255	209-282	232
♂ 8775		49	61	35	228-262	247	197-253	227
	♂ 8790	46	60	33	214-279	252	209-260	237

TABLE II.
Lipid Metabolism of Blood in Vitamin D Deficiency (Cholesterol).

Animal No.		Wt. gm.		Exp. Period (Days)	Cholesterol (mg. per 100 cc.)	
P	C	Init.	Final		Range	Ave.
♀ 8622		45	63	42	86-101	100
♀ 8623		45	58	42	82-101	93
♂ 8624		45	60	41	82-107	91
♂ 8625		45	64	41	88-107	94
	♀ 8626	42	69	41	88-112	100
	♂ 8627	35	59	41	82-92	8

It will be noted from the tabular data that the vitamin D deficient animals showed the same range of concentration of blood lipids as the controls.

Further work in progress will establish whether a longer fast will eliminate the changes in metabolism due to absorption of food lipids, and will bring about less fluctuations in the normal and whether, by the use of the modified technique, avitaminotic rats will show any definite departure from the normal in concentration of blood lipids.

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Dietary Requirements for Fertility and Lactation. XXV. Does Amount of Fat in Diet Influence Vitamin B Requirements for Lactation?*

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The experimental data presented by Evans and Lepkovsky¹ in support of the thesis that fat produces a sparing action on vitamin

* Research paper 297, Journal series, University of Arkansas.

¹ Evans, H. M., and Lepkovsky, S., *J. Biol. Chem.*, 1929, **83**, 269; *J. Nutri.*, 1931, **3**, 353; *J. Biol. Chem.*, 1932, **99**, 235.