

ets was observed in vegetables which were irradiated after they had been plucked. Green lettuce leaves from the market were of no value in preventing rickets, whereas after irradiation when fed in same amounts (10 gm.) they had become antirachitic.

Therefore, in the plucked as well as in the growing green vegetable, irradiation led to the formation of an antirachitic factor.

Irradiated Wheat and Lettuce.

Rat Wt. gm.	Rickets Diet	Substance Fed (10 gm.)	Histologic Result
40-64 40-50 44-70	Low Phosphorus No. 84	Wheat <i>Irrad.</i> 1 hr. 1 ft. while growing	No. R. " " " "
40-60 44-68 40-60	"	Wheat (etiolated)	Mod. R. " " " "
40-59 40-52 40-60 24-40	"	Green Lettuce (<i>irrad.</i>) 1 hr. 1 ft.	No. R. " " Very sl. No. R.
41-61 34-54 40-64	"	Green Lettuce (<i>non-irrad.</i>)	Marked R. " " " "
44-50 40-42	"	No Lettuce	Mod. R. " "

4 (2527)

Antirachitic properties imparted to inert fluids by ultraviolet irradiation.

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The fact that inert fluids can be activated and rendered antirachitic by means of irradiation was reported by us some months ago.¹

Steenbock has reported a similar result in relation to the production of a growth-promoting factor. He has also confirmed

¹ Hess, A. F., *Am. Ped. Soc.*, June 7, 1924. Proceed. in *Am. J. Dis. Childr.*, 1924, xxviii, 517.

our observations in regard to rickets, having been able by means of irradiation to render "fats" active in preventing this disorder.² In our experiments various inert fluids were irradiated with the mercury vapor lamp for one hour at a distance of one foot, in order to ascertain whether by this means they could be endowed with antirachitic potency. It was found that cotton seed oil and linseed oil could be rendered specifically active by this means. After these oils had been thus irradiated they were able to protect rats from rickets when 0.1 cc. daily was fed in addition to the standard rickets-producing dietary (No. 84). The irradiated oils were able to store this factor for a considerable period. These experiments demonstrate the possibility of producing an antirachitic factor in vitro.

5 (2528)

Food accessory substances in bacterial growth. I. The influence of initial hydrogen ion concentration of media on the growth promoting effect of tomato extract.

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It seems from a review of the literature bearing on the question of the rôle of vitamins in bacterial growth that nobody has investigated the influence of Hydrogen ion concentration of media on the growth promoting effect of these factors. The purpose of the present work was to study this relationship.

As tomatoes have been shown by Thjötta and Avery¹ to contain food accessory substances for bacteria, the growth promoting effect of tomato extract adjusted to pH 7.0 upon the growth of *B. Shiga* in media of pH range 5.4-9.0 was investigated.

It was found² that this extract is not able to promote the growth of *B. Shiga* in broth at initial pH 5.2-6.2, that it has a moderate

² Steenbock, H., *Science*, Sept. 5, 1924, 224.

¹ Thjötta, Th., and Avery, O. Y., *Exp. Med.*, 1921, xxxiv, N-1.

² A detailed report will appear elsewhere.