

VITAMIN A AND CAROTENE SERUM LEVELS IN DEPLETED CHICKS AND CHILDREN
IN RELATION TO VITAMIN A OR CAROTENE INTAKE. Robert L. Squibb, J.
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Blood serum vitamin A and carotene determinations have proved revealing in nutrition studies. Synthetic carotenes in cottonseed oil or mixed with sugar lowered mortality and stimulated growth when fed to provide 80 to 180 $\mu\text{g.}\%$ in five experiments of five weeks duration using 600 three-day old New Hampshire chicks depleted with a low vitamin A basal ration. The serum levels of the chicks receiving 180 $\mu\text{g.}\%$ increased only 5 $\mu\text{g.}$ vitamin A and 20 $\mu\text{g.}$ carotene/100 ml. The carotenoids from a dehydrated ramie (*Boehmeria nivea*) meal, added at comparable levels, gave a linear growth response and increased serum vitamin A 8 $\mu\text{g.}$ and carotenoids 75 $\mu\text{g.}/100$ ml. Three local yellow corns fed for 35 days as 12% of the basal ration increased serum vitamin A levels from 2 $\mu\text{g.}$ to a maximum of 13 $\mu\text{g.}$ and serum carotenoids from 23 $\mu\text{g.}$ to 167 $\mu\text{g.}/100$ ml. Upon hospital admission, 10 children with Kwashiorkor showed an average serum vitamin A level of 8 $\mu\text{g.}/100$ ml. Administration of 1.5 mg. of water miscible vitamin A orally to these depleted children resulted in marked elevation of vitamin A serum levels to an average maximum of 52 $\mu\text{g.}/100$ ml. in one to two weeks. Average vitamin A values of 12 $\mu\text{g.}$ and carotene value of 14 $\mu\text{g.}/100$ ml. were found in the sera of persons in a semi-famine area.