

ABSORPTION OF VITAMIN B₆ FROM THE GASTRO-INTESTINAL
TRACT OF THE DOMESTIC FOWLG. S. HEARD⁺ and E. F. ANNISON

Payne (1977) described several vitamin-responsive syndromes in newly-hatched, broiler chickens, and suggested that sub-optimal reserves of B-vitamins, including vitamin B₆, in fertile eggs might be a consequence of poor absorption from the diets of breeding hens. This prompted a study of the characteristics of absorption of vitamin B₆ in normal birds.

In vivo preparations using ligated loops demonstrated rapid absorption of B₆ from the duodenum, jejunum and ileum, during 15-min incubation periods, but the percentage absorbed was highest from the duodenum. Absorption from the caecum was relatively low (5% of the test dose compared with 45-60% for other sections of the intestine). Time-course studies, and feeding trials using diets containing crystalline B₆, showed that much of the dietary vitamin is absorbed from the duodenum. When the diet contained no synthetic vitamin B₆, absorption was reduced and occurred in the jejunum rather than the duodenum.

The use of tritiated pyridoxineHCl for in vivo and in vitro studies indicated that absorption was proportional to the concentration of B₆ over the range 0.01 μ M to 10 mM. Although several metabolic inhibitors reduced the rate of absorption in vitro, the results are consistent with a passive mode of absorption for vitamin B₆.

PAYNE, C.G. (1977). In 'Nutrition and the Climatic Environment', p.155, eds W. Haresign, H. Swan and D. Lewis. (Butterworths : London).

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