

# Uptake of leucine and glutamate but not lysine and glucose from the intestinal lumen of chickens: short communication.

Adeola, O; Asem, EK.; Onyango, EM,

## **Abstract:**

An investigation into the influence of phytates on the in situ absorption of amino acids (lysine, glutamate and leucine) and glucose from the intestinal lumen of 3-week-old chickens was carried out. Birds were anaesthetised and the intestines exteriorised. Uptake of 5 mM of each nutrient over a 4-min period was measured in the presence of four phytate concentrations (0, 50, 250 and 500 mM). Five birds were used for each nutrient at each concentration of phytate tested. Leucine uptake decreased linearly ( $P < 0.001$ ) and that of glutamate showed a tendency to decrease ( $P = 0.055$ ) as the phytate concentration increased. Absorption of lysine and glucose were unaffected by the presence of phytate. In conclusion, phytate in the small intestinal lumen exerted a depressive effect on the absorption of specific free amino acids from the lumen. Its depressive effect was greatest for leucine followed by glutamate, and phytate had little effect on the absorption of lysine