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Summary only

MAGNESIUM ABSORPTION IN THE DIGESTIVE TRACT OF SHEEP

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THE ABSORPTION of magnesium was studied in four caged sheep each fitted with rumen cannulae and re-entrant cannulae at the proximal duodenum and terminal ileum. Polyethylene glycol and chromic oxide were used to estimate the flow of liquid and solid digesta in the digestive tract.

The daily intake of magnesium, from 900 g of dried grass fed continuously by a constant feeder, was $1,640 \pm 3$ mg, while $1,000 \pm 26$ mg were lost with the faeces and 445 ± 22 mg excreted in the urine. The net magnesium absorption from the digestive tract was 640 ± 26 mg while the net magnesium retention was 195 ± 35 mg.

The flow per 24 hr of solid and liquid digesta at the duodenum and ileum were 497 ± 13 g and $9,960 \pm 377$ ml and 335 ± 10 g and $2,900 \pm 147$ ml, respectively. The 24 hr flow of magnesium at the duodenum was $1,020 \pm 46$ mg, while that at the ileum was $1,095 \pm 64$ mg. A summary of the mean daily absorption or secretion of magnesium is given in Fig. 1.

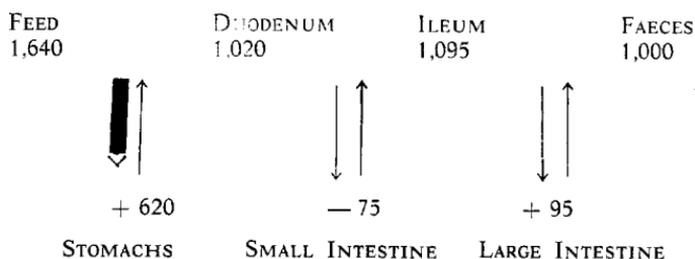


FIG. 1: *The net absorption (+) or secretion (-) of magnesium along the digestive tract (mg/24 hr).*

The significance of the values for net absorption and secretion in the small and large intestine are difficult to evaluate because of the variation in the flow of magnesium at the duodenum and ileum. However, the results of this preliminary study indicate that 95% of the magnesium was absorbed in a region anterior to the duodenum.