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# Number and Distribution of Gastrin Cells in Response to Different Diets in the Pylorus of Goats

**Mazliawati Ahmad, [1]Shanthi Ganabadi & [2]Abdul Razak Alimon**
*[1]Department of Veterinary Preclinical Sciences, Faculty of Veterinary Medicine*
*[2]Department Animal Science, Faculty of Agriculture*
*Universiti Putra Malaysia*

## Abstract

Gastrin is one of the important hormones in gastrointestinal endocrine system. Its function is to stimulate gastric acid secretion during food digestion. Gastrin is synthesised and stored in gastrin cells (G cells) located in the pylorus of the mammalian stomach. Lesser amounts are produced throughout the small and large intestine. Twenty-four Katjang-Cross goats, aged 6 mo were used in this study. The goats were divided into control and treatment groups. The control group (n=8) was fed with a diet consisting of 60% Guinea grass and 40% concentrates which included corn, soya bean meal, calcium, mineral and vitamin with crude protein of 12.8%. The first treatment group (n=8) was fed with 10% Guinea grass and 90% palm kernel cake together with calcium, mineral and vitamin with crude protein of 15.2%. The second treatment group (n=8) was fed with same diet as the goats in the first treatment group but with addition of molybdenum (40 ppm) and sulphur (100 ppm) with crude protein of 15.2% (same as treatment 1). The diets were fed to the goats for 120 d and the goats were slaughtered on the 121st day. The stomachs were removed from the carcasses of the goats and the histological slides of all four parts of the abomasum were prepared. The numbers and distribution of the gastrin cells were counted and compared between control goats and two treatment goats. There were significant differences in the means of gastrin cells between the control goats and treatment goats. Both treatment goats fed with higher protein diet has high number of gastrin cells as compared to the control goats. As for distribution of gastrin cells, positive immunoreactive gastrin cells were found only at the pyloric region of the abomasum. No gastrin cells were found in the cardia, fundus and body of abomasums. There were no specific patterns of distribution of gastrin cells in the pyloric.

**Keywords**: Goat, gastrin cell, protein diet