HISTOLOGICAL ASSESSMENT OF SMALL AND LARGE INTESTINES OF PHILIPPINE MALLARD DUCK (*Anas platyrhynchos* L.) FED VARYING LEVELS OF FRESH PINTO PEANUT (*Arachis pintoi* Krap. & Greg.)

THESIS

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ABSTRACT

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This study was conducted at the Broiler Production Project Building of the Department of Animal Science of the Cavite State University, Indang, Cavite from January2018 to April 2018 to determine the effects of Pinto peanut on the Pateros duck's gut response with specific concerns on the histological features of Pinto (*Arachis pintoi*) peanut-fed sexually mature ducks (*Anas platyrhynchos* Linn.).

A total of 60 ducks were randomly assigned to four groups, each with three replicates, where five birds comprised each replicate. The commercial feed ration was supplemented per kg with different levels of *A. pintoi;* T0 (control group)- with pure commercial feed ration only; T1 –with 10 g *A. pintoi;* T2- 15 g *A. pintoi*; T3- 20 g *A. pintoi* was fed to ducks for a period of three months. On the sixth-month, destructive sampling of 24 ducks randomly chosen for gut analysis and histological preparation for microscopic examination were conducted.

No significant difference (P>0.05) in the live weight was observed after the three months of feeding with various levels of Pinto peanut. This was also true on the fresh weights of entire midgut to hindgut (i.e., from small intestine to the large intestine) suggesting that, generally, adding Pinto peanut to the feed composition does not in any way influence the growth and development of digestive and absorptive organs of ducks

over a short period of feeding. However, this information can suggest that the ducks in the experimental groups which belong to the same age group equally utilized the feeds.

No significant difference ($P>0.05$) in live body weight, entire gut, small intestine and large intestine fresh weights, length and the area of small and large intestines was observed among treatments. However, *A. pintoi* supplemented at the rate of 10, 15 and 20 grams per kg of commercial feed exhibited significant increase in terms of villi height, villi width, crypt depth and intestinal muscle wall thickness over the control.

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INTRODUCTION

Ducks are among the major and best sources of meat and eggs, next to chicken. In the Philippines, duck farming is a lucrative enterprise because of the "balut" (technically known as boiled 18-day embryonated duck egg), a special street delicacy that is the main product of the Philippine Mallard (*Anas platyrhynchos* L.) or Pateros "itik". The Pateros ducks are relatively hardy and show resistance to common avian diseases. Feed is the most expensive item in livestock animal production including ducks, and it is one of the major problems faced by the backyard and medium-scale duck raisers in our country. Hence, researchers are continuously looking for ways to minimize feed cost while improving poultry performance. To maximize the full potential production of ducks, leaf meals are added to the feeds. Such application in poultry diets is the use of Pinto peanut.