

Preference of Broiler Chicken for Cassava-*Moringa* Based Diet

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ABSTRACT

The poultry industry is under pressure from the rising cost of imported feed ingredients. In order for the industry to be profitable and sustainable, it has to reduce the cost of production by using locally available feedstuff. A study was carried out to evaluate feed preference of broiler chicken for cassava root chip, for three diets made by mixing different proportion in percentage of cassava root chip and ground *Moringa* leaf (90:10, 80:20, 70:30) and compare it to the preference for commercial starter diet. These diets were offered as free choice to five 20-days old chicken, one at a time over a period of five days. The three feed preference criteria assessed were (i) the visiting frequency to each diet station, (ii) time spent feed at each diet station, and (iii) amount of different treatment diet consumed. The hypothesis is that the preferred food will be visited more often; the chicken will spend longer time feeding on it and therefore consume it more. We found that broiler chicken consumed cassava root chip the least (2 g), visited it less often (9 visits) and spent less time (3.5 minutes) feeding on it. In contrast, feed consumption (6.12 g) and time spent (17 minutes) was highest for mixed diet containing 80% cassava and 20% *Moringa* leaf meal. Visiting frequency was highest for commercial starter diet (29 visits) and second highest (24 visits) for mixed diet of 80% cassava: 20% *Moringa* and 70% cassava: 30% *Moringa*. It is concluded that broiler chicken preferred the diet containing 80% cassava root chip and 20% *Moringa* leaf meal among all diets on offer.

Keywords: Broiler chicken, cassava root chip, feed preference, *Moringa* leaf meal

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INTRODUCTION

Poultry meat (1.59 million metric tonnes in 2019) and egg (9 billion per year) is a very important component of livestock industry in Malaysia (Department Veterinary Services, 2020). It is cheaper than other protein sources such as beef, lamb or pork, and consumed by most people due to the absence of racial and religious prohibition. Per-capita consumption of poultry meat in Malaysia is currently about 50 kilograms, which is the highest in Asia and third highest in the world (Ferlito, 2020; Hirschmann, 2021).

The cost of feed accounts for about 70% of the cost of poultry production, so to make the industry cost-effective, competitive and sustainable, we should address this cost of feed issue first (Thirumalaisamy *et al.*, 2016; Abdurofi *et al.*, 2017). The magnitude of the issue can be seen from 2017 statistics during which Malaysia produces about 80,000 metric tonnes (MT) of grain corn compared to 3.7

million MT demanded by the livestock industry. To meet this demand Malaysia has to import all the grain corn required, mainly from Brazil and Argentina, worth RM 3 billion. Grain corn import rose from 3.7 million MT in 2017 to 4.1 million MT in 2020. This situation is clearly unsustainable and undesirable, hence the government is looking for ways to increase local production by learning from our neighbour Indonesia who are almost self-sufficient in grain corn production (Nazmi *et al.*, 2021).

The preferred strategy should be to depend less on imported feed ingredients such as corn (energy source) and soybean meal (protein source) and promote the production and use of locally produced feedstuff. Cassava has been identified and suggested as partial replacement for corn especially in areas where it is readily available (Morgan & Choct, 2016) while *Moringa oleifera* has been tested in a feeding trial with poultry in South Africa (Sebola *et al.*, 2015).