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Original Article

Rabbit husbandry management at Dengkil, Sepang, Malaysia

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Abstract

Rabbit farming is emerging as a sustainable and viable alternative to traditional livestock, particularly in Southeast Asia, where it addresses the rising demand for animal protein. This study examines the maintenance management practices at Dengkil, Sepang, Malaysia, highlighting key aspects such as feeding, reproduction, slaughter, health, and sanitation. The study employs a qualitative-descriptive approach, providing insights into daily and routine management practices. Feed management is critical, with the farm using Cargill pellets tailored to the rabbits' growth stages to ensure optimal nutrition. Reproductive management involves careful mating, birthing, and weaning practices, while slaughter management includes pre- and post-slaughter procedures. Health management focuses on disease prevention and treatment, particularly scabies, and sanitation practices are meticulously followed to maintain a clean and healthy environment. The findings underscore the importance of effective maintenance management in rabbit farming, contributing to its potential for sustainable livestock production in Malaysia.

Keywords: Rabbit, Management, Health, Reproductive

INTRODUCTION

Aligned with the sustainable development goal of ending hunger, achieving food security, improving nutrition, and promoting sustainable agriculture, rabbit farming is garnering attention as a rapidly emerging alternative to traditional livestock (Paladan 2022).

Para *et al*. (2015) identified rabbit meat as a viable alternative protein source for addressing the rising demand for animal protein in Southeast Asia's growing populations. The United States Department of Agriculture recognizes rabbit meat as one of the healthiest options, offering superior levels of protein, vitamins, and minerals compared to other livestock meats (Kunnath 2017; Lebas *et al*. 1997). Likewise, Bodnár and Bodnár (2014) characterized rabbit meat as a white meat with notable benefits, including low levels of fat, sodium, and cholesterol, combined with a high protein content relative to other meats. Moreover, rabbit fat is distinguished by its lower concentrations of stearic and oleic acids and higher levels of essential polyunsaturated linolenic and linoleic acids (Kunnath 2017). These attributes highlight rabbit meat as a healthier and forward-looking alternative, underscoring the need to cultivate demand in health-conscious markets.

Rabbits are beloved pets due to their cute and adorable appearance. They can be categorized into two groups: ornamental rabbits and meat rabbits. As non-ruminant herbivores, rabbits were originally wild animals that have since been domesticated. This study focuses on the maintenance management practices at Dengkil, Sepang, Malaysia. It covers key aspects such as feeding, reproduction, slaughter, health, and sanitation, providing insights into effective rabbit farming practices.

In 2003, an outbreak of bird flu and swine flu prompted Malaysian farmers to seek alternative livestock options to sustain their businesses. Raising rabbits emerged as a viable solution due to their rapid growth, low initial capital requirements, minimal land use, and low operating costs. With the increasing number and improving quality of rabbit farms in Malaysia, this industry is expected to contribute significantly to meeting the country's future protein demands.

MATERIAL AND METHODS

The Field Work Practice activity was conducted from April 15, 2019, to May 9, 2019, at Dengkil, Sepang, Malaysia.

Farms in Dengkil generally focus on breeding and slaughtering meat rabbits, primarily raising New Zealand White rabbits and Local Malaysian rabbits. In early 2018, many of these farms faced a severe outbreak of scabies, leading to substantial losses. However, by the end of 2018, the farm had managed to recover.

The study employed a qualitative-descriptive research design. A descriptive design was chosen as the study aimed to highlight the management practices in rabbit husbandry in Dengkil, Sepang, Malaysia rather than to test or prove a specific theory. Consequently, a qualitative approach was adopted to provide a comprehensive understanding of the farm's operations.

RESULTS AND DISCUSSION

Maintenance management is a critical factor in ensuring the success of a farm, as it supports the overall health and productivity of the livestock. Each farm may have its own specific approach to maintenance. At this rabbit farm, there are several maintenance tasks that must be performed daily or routinely, as well as activities that are carried out on a monthly or periodic basis to ensure the well-being of the rabbits and the smooth operation of the farm.

Feed Management in Rabbit Farming in Dengkil

One of the key factors determining the success of a rabbit farming business is feeding. Feeding involves not only providing the right portion sizes but also ensuring the nutritional content of the feed is of high quality. Nutrition refers to

the substances in food that living organisms need to grow and develop according to their specific functions. The nutritional content of animal feed must include water, energy, minerals, protein, and vitamins, all of which play a crucial role in livestock production outcomes. The amount of feed given to rabbits must be carefully adjusted to meet their specific nutritional needs, ensuring optimal growth and productivity.

Rabbit farms in Dengkil provide feed in the form of Cargill brand pellets, especially pellets number 8012 and 8042 (the nutritional content can be seen in Table 1). The type of pellet given is tailored to the growth stage of the rabbit. For example, pellet number 8012 is fed to growers, breeders, mother rabbits (does), and offspring. This pellet type has the greatest impact on the growth of young rabbits, while for mothers and offspring, its effects are less pronounced. Pellet number 8042 is used for male rabbits. The amount of pellets given varies depending on the rabbit's category: growers, breeders, and males are each given 100 grams per head per day. For breeders with two offspring, 200 grams per day is provided, while breeders with four offspring receive 300 grams per day per head. This means each baby rabbit receives approximately 50 grams of feed per head per day.

Table 1. Nutritional content of Cargill pellet numbers 8012 and 8042.

Nutritional content	8012	8044
Protein	16%	12%
Fat	2%	2%
Fibre	18%	25%
Moisture	13%	13%
Calcium	0,70%	0,70%
Phosphorus	0,40%	0,40%

The Cargill pellets used are plant-based, making them a safe and reliable option as the main feed for rabbits in the farm. The results achieved have been quite impressive, as the rabbits reach a weight of 3 kg in just 70 days. These successful outcomes can be attributed to the farm's commitment to ongoing testing and monitoring of feeding practices, ensuring optimal growth and health for the rabbits.

Feeding is done once a day at 16:00. Before being given to the rabbits, the pellets are first filtered to remove any small particles that could potentially interfere with the rabbits' respiratory health. If a rabbit is reluctant to eat, hay is provided as a supplementary feed to stimulate their appetite and encourage consumption.

Relying solely on forages cannot sustain the ideal productivity of rabbits, making the inclusion of supplements essential. This is especially important for tropical grasses, which tend to be less palatable, lower in protein, and higher in lignin compared to temperate grasses (Chah *et al*. 2017). Additionally, rabbits raised exclusively on forage have been found to grow at a slower rate, resulting in longer periods needed to reach slaughter weight (Paladan 2022). Therefore, supplementing the diet with appropriate nutrients is crucial to optimize rabbit growth and productivity.

Reproductive Management at Goodtre Garden Rabbit Farm

Reproductive management is categorized into several tiers based on its complexity

a. Rabbit mating

The rabbit mating process occurs at night. Rabbits selected for mating must weigh over 3 kg or be at least 6 months old. After mating, the rabbits are separated and returned to their respective cages in the morning. The success of mating is evaluated on the 14th day following the procedure. Pregnancy in rabbits lasts for 30-31 days.

b. Rabbit gives birth and weans

Rabbits undergo a gestation period lasting 30 to 31 days. On the 4th day prior to giving birth, a nest box is placed in the cage to prevent the offspring from being eaten by the mother. The nest box is removed after the fourteenth day. The offspring are separated from the mother after 28 days, or 4 weeks. The mother is mated again once the offspring reach 2 months of age.

c. Slaughter Management in Rabbit Farming in Dengkil

In addition to cage management, slaughter management is also an essential aspect. The slaughter management process is as follows:

1. **Pre-Slaughter**: Rabbits must weigh more than 3 kg, undergo culling, and be healthy.
2. **Post-Slaughter**: The process includes total slaughter, carcass weight, and meat weight.

The slaughtered meat is typically sold to customers who have placed orders or to collectors. It is offered in three variants: fillet meat, regular meat, and offal. Offal is usually used by customers to feed their livestock. Rabbit meat is sold by weight, per kilogram.

Health Management in Rabbit Farming in Dengkil

The main disease that attacks rabbits in Dengkil is scabies, which has impacted 77 rabbits out of a population of 600. Rabbits diagnosed with scabies are treated with doramectin for does at a dosage of 0.5 ml, and canbisu for growers at a dosage of 0.1 ml. The drug is administered twice, with a 10-day interval between doses. Cages previously occupied by rabbits affected by scabies or other infectious diseases are emptied for one week and disinfected with Lysol. In addition to scabies, rabbits on the farm also suffer from watery eyes, which are typically treated by cleaning the eyes with iodine.

Sanitation Management in Rabbit Farming in Dengkil

The cleaning phase is crucial for maintaining the health of the rabbits. Cage floor sanitation is performed daily on the cement floors by spraying them with water to remove dirt, followed by brushing with detergent. On dirt floors, cleaning is done once a week. For rabbit cage sanitation, the cages are first burned to remove any fur, then sprayed with probiotics. The nest box must be thoroughly washed after each use to ensure it is clean and sterile when reused. This involves washing with detergent, scrubbing, and rinsing with water until clean and dry. For cleaning the gaps beneath the cages where feces accumulate, a tool such as a broom is used to help direct the droppings into the designated gutter.

In addition, feces are cleaned from cages with a ground base once a month. The sanitation process is also conducted every time a cage is emptied. This sanitation involves burning the cage to eliminate bacteria, viruses, or parasites, thereby reducing the risk of disease transmission.

CONCLUSION

This study highlights the success of rabbit farming in Dengkil, demonstrating that effective maintenance management—encompassing feeding, reproduction, slaughter, health, and sanitation—can lead to sustainable and profitable rabbit farming. Despite challenges like a scabies outbreak, the farm's recovery showcases the importance of proactive disease management. The use of high-quality feed, proper breeding practices, and stringent sanitation protocols have ensured optimal productivity. Looking ahead, rabbit farming holds promise as a sustainable protein source for Malaysia and Southeast Asia. Future research could focus on optimizing feed, improving disease management, and enhancing breeding practices to further increase productivity and sustainability in the industry.

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CONFLICTS OF INTEREST

There is not conflict of interest in this study

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