

# **Raising New Zealand White Rabbits in Barbados: Analysis of the Environment, Feasibility, and Growth Rate**

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Introduction: The New Zealand White is one of the most commonly raised breeds of rabbit throughout the world, and its popularity was long ago extended to the tropics for its high adaptability to warm, humid climates. Rabbits are an extremely desirable species for backyard meat production, for they are easy to raise, require little input costs and grow rapidly to produce a meat high in protein but low in fat (Lebas et al., 1997). They also hold the ability to break down cellulose, which avoids putting them in direct competition with humans for food as opposed to other meat producing species such as chickens that must be fed on grain. This quality is particularly appealing to places such as Barbados, which imports all of its cereals (FAO, 2011).

Barbadians used to keep rabbits in their backyard as a source of protein and income, but over the past 50 to 60 years rabbit raising has dwindled. Rabbit meat is in substantial demand on the island yet there are only a few producers available to respond to the demand. The Ministry of Agriculture in Barbados has started an outreach program to encourage people to keep and raise their own rabbits. The

efforts are directed towards school children, for whom rearing rabbits would be an easy job to accomplish after coming home from school. According to John Vaughan, the main objective for encouraging rabbit rearing is to provide Barbadian families with high quality protein, as well as some additional income and pocket money.

The project: Our primary goal was to determine the optimal type of feed for domestic rabbit meat production in Barbados. The project consisted of raising rabbits for 6 weeks using different feeds and fattening them from the weaning stage to a market-ready rabbit. In the process, different information was learned about rearing rabbits, such as the amount of labor involved, economics required, and all the different uses for rabbits, the final goal being to acquire all the details involved in running a successful backyard rabbit production. A taste test was performed at the end of the experiment to determine whether the different feeding treatments had any effect on the flavor of the meat.

Material and methods: 18 New Zealand White rabbits in the weaning stage were obtained from the Ford farm in the parish of St. Andrews.

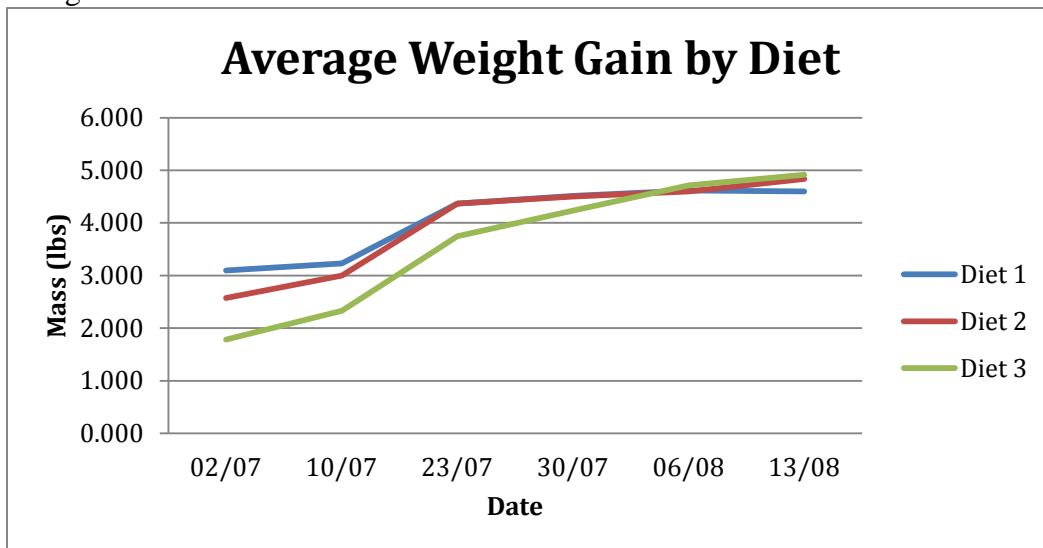


The rabbits were clearly identified in the right ear using a permanent sharpie marker. They were then separated into three groups based on weight, and fed

three different diets. The heaviest were fed scraps from leftover meals at the Bellairs Research Institute, along with river tamarind (*Leucaena leucocephala*) and rabbit vine (*Teramnus labialis*). The next heaviest group was fed general ruminant pellets from Fast Caribbean Feeds Ltd. The lightest were fed on rabbit grower pellets also from Fast Caribbean Feeds Ltd.

Following Mr. Vaughan's suggestion, all three cages were provided with a constant supply of food and water, which was verified a minimum of three times a day: in the morning, at midday, and at night.

**Results :** It can be observed that although the average rabbit in diet 1 initially exhibited the heaviest weight, rabbits on diet 3 overtook them by week-5. From one week to the next, average weekly growth rates were significantly higher in diet 3 than in diet 1. Diet 2 stands right between these two extremes. The results for the first diet suggest that feeding New Zealand White rabbits on merely rabbit vines and left over scraps will not provide the optimal growth rate, that is widely established in the literature as being around 30 g (0.66 lbs) a day (Massoud et al. 1986).



The cages were chosen to accommodate the rabbits in the most efficient and inexpensive way. The cages were all suspended at one level from the ceiling beams in a protective structure using the flat-deck setup. Two barrels were used to help support the suspended cages from below. The cages were set up so that the rabbits' urine and feces would fall directly under the cages, where sand was piled up to use as litter that would be easily turned over in accordance with sanitation measures. Undulated tin sheeting was placed on top of the cages to protect the rabbits from rain.

A taste test was conducted to assess which meat had the best quality. Using a 17-member test panel and a 5 category rating consisting of appearance, taste, texture, smell, and overall satisfaction, it was found that order of preference was: those fed with rabbit feed followed by those fed with kitchen scraps and finally those fed with ruminant feed.

**Discussion:** The major results we obtained through this experiment were that rabbit grower pellets are the type of feed that produced the best outcome in terms of growth rate, despite being the most expensive option. But several

possible sources of errors exist that could have affected our results, and these should be taken into consideration. First of all our rabbits were divided into their diet groups based solely on their initial weight – this means that they might have been at different stages in terms of growth from the start, possibly affecting the trends in growth over the span of the experiment. Secondly, the rabbits slaughtered were the lightest among the groups – the heaviest ones were kept for breeding. As a result, the carcass weight we used to assess the effectiveness of the different feeds was not the most representative sample, for the rabbits chosen were specifically the ones with the least growth rates. Thirdly, over the course of the project there were several unexpected complications that triggered stress responses in the rabbits. Diet group 2 suffered casualties from predators, with 2 of the rabbits killed by dogs and the others injured, while another one died of unknown causes. This significantly shrank our sample for diet 2, and the dog attack was a potential source of stress, which may have affected the growth rate. Ear mites were also found in the last week of the experiment, and though treatment immediately ensued it could possibly have negatively affected growth rates.

Conclusion: This experiment allowed us to understand that it is not an ideal practice for rabbit raisers to use only scraps and rabbit vine when feeding rabbits as the nutritional balance is insufficient. Our recommendation is to use kitchen scraps or rabbit vine supplemented by industrial rabbit feed. We recommend that the Ministry of Agriculture's Outreach program be expanded. Spreading the practice of backyard rabbit raising is crucial as it

could provide families with an inexpensive and sustainable source of meat as well as additional income.

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