GUINEA PIG : A POTENTIAL SOURCE OF MEAT IN PAPUA NEW GUINEA

B.J. Bakau and M. Moat
Animal Husbandry Research Centre
Labu, Morobe Province

INTRODUCTION

Although guinea pig is usually regarded as a laboratory or a pet animal, there is no reason why the animal cannot be reared for consumption. The meat is delicious and, in countries such as Bolivia, Colombia, Ecuador and Peru, it forms a normal part of peoples' diets. In Peru for instance, some 17000 tonnes of guinea pig meat is consumed every year.

For Papua New Guinea, we have come to a stage where we are now faced with the problem of diminishing numbers of wild game animal species in our forests; and some species have or are about to be forced into extinction. As a result people in remote mountains areas are faced with malnutrition due to lack of protein in diet. Thus, farming guinea pigs in these areas is not only an attractive, but is probably one of the most appropriate options to choose. This paper is written with the aim of making available information on nutrition and management aspects of the animal.

SOME ASPECTS OF GUINEA PIGS

The guinea pig is a member of a group of animals called rodents. Because of its close and long association with mankind, the animal relies so heavily on humans for feed, shelter and protection, that is, it cannot survive in the wild environment.

The animal adapts extremely well to most conditions and thus can be found in both temperate and tropical regions. It is well coated with fur at birth, either, patterned (usually with black, light brown and white color arrangements) or plain coloured (one of the three colours). They reach maturity at about 10 weeks of age, however, it is suggested that breeding should be delayed until at 12 weeks of age. Females come into oestrus every 16 days, but one of the unique feature of the animal is that the animal has a fertile postpartum i.e. straight after giving birth, females come on heat again and are receptive to mounting. Gestation period can vary greatly but, is usually between 55 to 75 days long.

A female can produce as many as 5 litters with an average of 3 pups per litter in a year. Production of 6 or more pups in a litter is not uncommon. Depending on the number of pups born, most weigh up to 100 g at birth and can reach 800 to 1000 g when fully matured. Weaning should be done at 3 weeks of age because if the pups remain any longer with their mothers, the mothers tend to loose condition very fast.

FEEDING HABITS

Guinea pigs are "vegetarians" that is they relish diets rich in plants or their products. Fruits and vegetables, root crops and cereal grains are usually preferred. Moreover, the animals can also graze on a wide range of native and introduced pasture species, however, it should be noted that this does not imply that they can live solely on these grasses.

NUTRITION REQUIREMENT

Like other animals, guinea pigs require a balanced diet to perform well. Diets containing high protein (20-22% crude protein) and fibre (30-35%) levels and a constant supply of vitamin C (ascorbic acid) are most preferred for good growth performance. The latter two can be well catered for by providing green grasses every day. Water should always be made available to the animals.

MANAGEMENT

Although a number of management systems can be employed in rearing guinea pigs, two of the most important factors to ensure are 1) ensuring that the animals are well fed and 2) the animals are protected against harsh conditions and predators.

Guinea pigs can be reared on deep litter in cages or they can be placed in cages and let out to feed on lawns and paddocks during the day and taken into shelter at nights. Not much floor space is required; usually a 0.1m² area is adequate for an animal to move around. Feeders and drinkers can be made from large bamboo hollowed out with an opening

strip about 5-7 cm wide made between the nodes. It is by far the cheapest way of presenting feed and water to the animals and is effective in preventing spillage.

MATING

As stated earlier, despite, having reached maturity by 10 weeks of age, mating should be delayed until 2 weeks later. A breeding ratio of 5 females : 1 male is optimum, though slightly higher ratio can be employed if desired. Old breeding stock can be replaced after a year or so, especially as soon as the animals begin to show signs of declining performance.

DISEASES

Guinea pigs have few disease and parasite problems. Diseases such as salmonellosis and pseudotuberculosis, however, can occur from time to time if management practices employed are inadequate. Other bacterial infections may also occur, particularly if grasses or feed offered have been contaminated. Lice infestation, although, is a nuisance and may cause extensive loss of fur, due to constant stratching. However it does not affect the animal's performance in any way. Periodic infestation can occur if the animals as well as their sheds have not been effectively cleaned.

GUINEA PIGS IN PAPUA NEW GUINEA

The population of guinea pigs in this country is very small. Most are kept as pets or maintained for research purposes. The Animal Husbandry Research Centre, DAL Labu (formerly Poultry Research Centre) has since the 1970s maintained a comparable herd for research work and, lately for distribution to interested farmers and individuals. The indication to date is that these animals are performing well - mostly fed on locally grown foodstuffs.

SOME PRELIMINARY RESEARCH RESULTS

A number of observations have been made on the performance of guinea pigs in Papua New Guinea conditions. As would be anticipated, most concentrated on the question of whether these animals would respond favourably when fed locally available feedstuffs. Mixed results were obtained.

In some observations it was observed that although the animals grew at a slower rate when fed fresh sweet potato chips or boiled cassava tubers than those that were fed commercial broiler finisher, other important parameters such as litter sizes and weaning weights were not adversely affected. Exclusion of green grasses (guinea grass, elephant grass, para grass etc) or inclusion of gliricidia leaves in the diets in detrimental to the animals, often resulting in deaths. Another important study is still continuing. It is joint study involving University of Technology's Agriculture Department. The project is aimed at selecting a fast growing type of guinea pig. The results so far are promising. However, it will be some time before we will be able to breed the type of animal we are looking for.

Looking ahead, there are already some research and development plans being prepared for funding. Of most interest is the idea of canning guinea pig meat. The aim is to provide an alternative to tinned fish.