BIOPROSPECTING OF SHAMI GOATS FOR DAIRY PRODUCTION IN MALAYSIA


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INTRODUCTION

Dairy goats have a good potential to help increase milk production in Malaysia. Dairy goats, as compared to dairy cows and buffaloes, are easier to handle due to their small size and require less feed, which is cost saving. According to Devendra (1970), development of milk production from goats by small farmers can complement commercialized milk production by cattle and buffalo. In addition to this, goat’s milk has been shown to fetch a much higher price compared to cattle or buffalo milk.

Shami goat is a dual-purpose goat originating from Syria. It is widely spread into Cyprus, Jordan, Turkey, Israel and other Mediterranean countries. For over 40 years, it has been improved through genetic selection for milk and meat (Mavrogenis et al., 2006). They are of the Nubian type and are usually red or brown colored but can also be seen in pied or grey. The animals can be either horned or polled and are long haired. It is considered as a large breed with withers measurement of about 78 cm and body circumference of about 97-99 cm. Adult live weight is about 65.5±5 kg for females and 75.0±5 kg of males. The breed is considered as one of the best dual-purpose breeds of the Middle East, under semi-intensive or intensive production systems. It combines prolificacy with high milk production and a growth of kids comparable to exclusively meat breeds (Mavrogenis et al., 2006). Total milk production, including milk produced until weaning, ranges between 350 kg and 650 kg per goat per lactation for 305 days (Louca et al., 1975). The climates which the Cyprus Shami goats originate range between 5°C and 20°C in the winter and 28°C to 35°C in the summer. Humidity in the summer ranges between 40% and 60% (Mavrogenis et al., 2006). The Technical Consultation of FAO/UNEB on Animal Genetic Resources, Conservation and Management have agreed that the Shami is among the important goat breeds of the world, and should be given a high priority due to its superior qualities (Mavrogenis et. al, 2006)

MATERIALS AND METHODS

The first batch of Cyprus Shami goats was imported into Malaysia on 31st October 2009. Sixty-four heads of Cyprus Shami goat aged between 9 -12 (60 does) and 12-24 (4 bucks) months were placed at the National Institute of Veterinary Biodiversity farm for bioprospecting studies. Information related with body measurements and body weights were recorded upon arrival.
The research animals were managed under raised barn sized about 10 m x 30 m under intensive system, fed with Guinea grass (*Panicum maximum*) for 10% of total body weight and soya hull concentrates (average 1 kg daily together) with mineral and vitamin supplements. There were two months of adaptation period for customization and acclimatization of the goats to the farm, before the bucks and does were mixed for breeding according to 1:15 ratio.

The pregnant does were separated from the herd and kept in different pens for extra comfort and care. New born kids were allowed to suckle for a maximum 1 month period or until they have started to feed on concentrate and forage. At the same time, the kids will be allowed to suckle by an artificial rearing unit until weaned (3 months of age). Data recording and evaluation includes milk production, average daily gain (ADG) of the kids, body measurements (height at withers, length, chest girth) and adaptability to the local environment. Evaluation of comparative production & reproduction traits and economic value index with different breeds such as Saanen will also be undertaken.

**CURRENT STATUS**

Being a new breed introduced into Malaysia from a different climatic region, Shami goats face some adaptability issues. The first two months after arrival at the farm, nearly half of them were infected with *Contagious ecthyma*. A few cases of mid pregnancy abortion also occurred (13 cases). This may be due to the transportation stress and improper nutrition regime compared to its original country. The group also has suffered 4 mortalities, including 1 buck (6.25% mortality). The last mortality case was reported in February.

Currently, the herd is getting better and stable after adjustment on the feeding regime. Larger amount of green forage is given in addition to soy hull pellet as an extra energy and protein source. Minerals, vitamins and probiotics are also supplied in the feed. Drinking water is treated with supplements too. The goats are allowed moderate exercise daily by letting them to free graze for a few hours in the morning to prevent them from being inactive.

Entering the third month on the farm, the goats are adapting well to the local climate and have got used to the local feedstuffs given to them. The goats have no signs of heavy panting except on a very hot day. The herd had its first kidding in March and number of kids to date is 13 kids with birth weight ranging from 1.8kg to 3.9kg, with 3 cases of twining. All kids are tagged and recorded using database software.

Milking is done once a day at 0800h in morning by hand and aided by milking machine. To date, there are 13 active milking does and since all of them were having their first pregnancy and kidding, the milk production average is still not as high as the Cyprus Shami in Cyprus (Mavrogenis et. al, 2006), although some of them are already showing very good milk production exceeding 1 kg per day compared to the average Saanen milk production of about 1.5 kg per day in Malaysia (unpublished). This milk production is expected to increase with time. Milk production is also influenced by the level of feeding as reported by Hadjipanayiotou and Louca, (1976); Papachristoforou *et al.* (1982); and Mavrogenis, (1983).
CONCLUSION

Based on these 3 months of observation, in general, the goats have shown good adaptability under the local climate. The 4 mortalities reported were due to improper management such as mishandling during transportation, pregnancy toxemia, post-partum weakness and malnutrition. The full evaluation will probably be available by April 2011. Based on these preliminary results, it is believed that this breed has the potential to become a preferred dairy goat breed in Malaysia.

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