

Phanrang sheep is a potentially useful breed for Ninhthuan province

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Summary

Phanrang sheep were introduced to Vietnam many years ago by missionaries. After generations of natural selection, the breed is only found in the Phanrang area of Ninhthuan province. The mature weight is 39-45 kg and 34-38 kg for males and females, respectively. The age at puberty is 5.5–6 months of age, the interval between oestrus' 18-21 days, the length of gestation 148-151 days and the interval between births 208-262 days. One Phanrang ewe can give birth 1.55 times per year with normally 1-2 lambs per litter, in some cases even 3 lambs per litter.

The population is increasing yearly, with herd sizes from ten to hundreds, and larger herd sizes on the bigger farms. The high price of and the good market for sheep products are factors encouraging the development of sheep production. The technical methods for Phanrang sheep production are discussed in this paper.

Introduction

Ninhthuan province is located at the southern end of central Vietnam. It occupies a geographically favorable position as a central transportation point. Natural area of the province is 3430 km² with 105km of coastline. There are around 58 000 ha of cultivated land, which accounts for 17% of the natural land area. The climate is a combination of tropical monsoon and a season with dry and windy weather. The annual average temperature is 27°C, and mean humidity and rainfall are 73% and 753mm respectively.

The population is 442 000 with a density of 163 people/km². The Kinh ethnic group accounts for 78% and minor ethnic groups such as Cham, Raglay, Hoa, k"Ho account for 22% of the population. Agricultural economy accounts for about 30% of GDP of the province, of which 60% is from crop production, 30% from livestock production and 10% is from the service section. Livestock production in Ninhthuan province is well developed and adapted to the different ecological systems. The province has had strategies to promote livestock production and it is becoming the main production branch.

In spite of the harsh climate and periodical droughts, Ninhthuan has the potential for development of some special crops and animal species such grapes, tobacco, cattle, goats and sheep. Sheep can play a role in changes in the crop and livestock structure and this species is given increasing attention by the province authorities for investment and development. Sheep is an animal species that can contribute to hunger and poverty alleviation in Vietnam and help the farmers to improve their income.

Common name and origin of Phanrang sheep

Phanrang sheep was named by research groups of the National Institute of Animal Husbandry (NIAH) and Agricultural University Number 2 when they were investigating sheep that were at risk of disappearing completely. Prof. Dr Le Viet Ly at NIAH recognised this valuable and in Vietnam rare animal species and the development prospects of the species. Some initial research done and some recommendations made as a basis for the development of Phanrang sheep. According to Ly et al. (1994), Phanrang sheep were introduced to Vietnam many years ago by

missionaries from India, Pakistan and Africa. After generations of natural selection, Phanrang sheep are only found in the dry climate of the hilly and mountainous area of Ninhthuan province.

Behaviour and biological characteristics of Phanrang sheep

Sheep have an ability to survive in harsh conditions. They move slowly but are very effective in finding feeds. Sheep are very easy to raise and there are several advantages to keeping sheep such as a rapid growth rate, a high disease resistance, low cost and high reproduction rate that leads to a high benefits for the raisers.

The height at the shoulder is about 50 to 60 cm for mature rams and average rams weigh 39 to 45 kg. Rams are used for mating at 8 to 9 months of age. The height at the shoulder is 53 to 59 cm for mature ewes and average ewes weigh 34 to 38 kg. The age at puberty is 5.5 to 6 months of age, the interval between oestrus' 18 to 21 days, the length of gestation 148 to 151 days and the interval between births 208 to 262 days. One Phanrang ewe can give birth 1.55 times per year with normally 1 to 2 lambs per litter, in some cases even 3 lambs per litter.

The sheep used for breeding should be chosen from a twin or a triplet litter and from a mother with high milk yield. The ram should have a well-proportioned body, be healthy and nimble with a wide chest and well-developed barrel. A straight body, in excellent condition and strong legs are necessary. The ewe should be healthy, with a small head and neck, and a long body. The udder should be well balanced and formed and without supernumerary teats.

At present, there are 30 Dorper and White Suffolk sheep that were imported from Australia to Ninhthuan. They are being crossed with Phanrang sheep to produce F1 crossbreds. The crossbreds are being investigated concerning the adaptation and production abilities before transferring them to products. In connection with the crossbreeding, selection methods are also used to improve the quality of Phanrang sheep to maintain the valuable gene resource of this breed. Exchanges of the rams between producers is necessary to avoid inbreeding.

Herd size and market for consumption

The population of Phanrang sheep at Ninhthuan province is increasing yearly and the development rate is relatively fast e.g. in 1992: 3 230 head, 1995: 3 000 head, 1999: 4 600 head and in 2003: more than 25 000 head, The usual herd size of Phanrang sheep at Ninhthuan is from ten to hundreds, with larger herd sizes on the bigger farms, e.g. Duong Dinh The's farm has 1200 head, Luong Xuan An's farm 800 head. The sheep at these farms are raised in semi-intensive systems.

Sheep production at Ninhthuan is mostly for the purpose of meat production. The main markets are Hochiminh city, Ba Ria-Vung Tau and Dong Nai. The price per kg body weight ranges from 28 000 to 30 000 VN dong and the price for a mature sheep is between 5 and 6.5 million VN dong. In 2003, 11 570 heads were slaughtered, equivalent to 309 tons (average body weight is about 26.7 kg). The high price and the good market are factors that can encourage the development of sheep production.

The carcass rate of Phanrang sheep is about 42%, of which muscles account for 29%. The meat contains 21.8% protein, 1.8% fat, 0.9% minerals and 75.5% water.

Table 1. The price of lambs and breeding sheep (1,000 VN dong)

Year	Price per kg live weight	Price per ewe
1993	10	1 000 – 1 200
1995	11	1 200 – 1 300
1997	12	1 300 – 1 500
2000	18	1 600 – 1 800
2003	25	3 200 – 4 500
2004	30	5 000 – 7 000

Ram management methods

- Mature rams should be separately penned to avoid disturbing the ewes
- Male sheep at 8-9 months of age can be used for breeding
- High quality feeds should be supplemented to the rams and the rams should be exercised daily (in confined conditions).
- Ratio of ram to ewes: For natural mating this ratio is 1:25 to 30 and for arranged mating it is 1:50 to 60.
- A mature ram can be used for a period of 1 to 1.5 years, then should be replaced by a new ram to prevent inbreeding or changed with other farms to mate with new ewes.

Housing

The sheep house should be built in a well-drained, well-ventilated and clean place. The floor can be made of wooden or bamboo slats, bricks or soil. The most common is a floor made of wooden slats since this makes it easier to look after the animals, easier to clean and collect the manure and to reduce the parasite infection and diseases. The house should be divided into pens for the milking ewes, rams and growing lambs separately. The space allowance is about 0.6 to 0.8 m²/head for growing lambs; 1.5 to 1.7m²/head for ewes and 1.8 to 2.0 m²/head for rams. The floor should be about 0.5 to 0.7 m off the ground. About 1 to 1.5cm space should be provided between slats so that manure can fall through the floor to the ground below. A feeder and a water trough should be available in each pen. In confined conditions, there is a need to build a big backyard for exercising or animals can be exercised in the garden or in the pasture near the shed.

Feeds

Sheep can eat many different kinds of feeds. However, the most appreciated feeds are grasses and shrubs. In addition, by-products such as banana peel, molasses, bagasse etc., can be used as feeds for sheep. Sheep can even eat cactus with the thorns burned off.

Fresh feeds for sheep per day in approximate amounts: mature rams: 5 to 7 kg/head/day; mature ewes: 4 to 6 kg/head/day; male lambs: 3 to 4 kg/head/day; females lambs (4 to 12months of age): 2 to 4 kg/head/day. In the dry season, when there is a lack of grasses, the raisers can feed the sheep with concentrates: mature rams:0.2 kg/head/day; mature ewes: 0.3 kg/head/day; lambs: 0.1 kg/head/day. Molasses can be used as a supplement (2 to 3% molasses in water.) Minerals and salts are given by hanging mineral lick blocks or putting salts in tubes on the walls of the pens. Water should be available all the times.

Epidemic prevention

- The sheep house should be clean and well-ventilated
- The pens should be cleaned daily
- Antiseptics should be used once per month
- Deworming should be done twice per year
- Supplementation with clean water. The animals should not be allowed to drink water in stagnant ponds.
- Do not feed the animals moldy feeds
- Supplement with salts and minerals by making mineral lick blocks.
- Examine for diseases often, isolate the animals and treat them
- Vaccinate twice per year.

- Trim the hooves of the sheep regularly.

Development prospects of Phanrang sheep

Lamb is a special product liked by many consumers and the consumption will probably increase in coming years. The market for lamb is spreading to all provinces in South Vietnam and the price is increasing and stabilising. With a suitable climate for sheep production and the experience of the producers Phanrang sheep production at Ninhthuan has good development prospects. Consequently, Phanrang sheep is, and will be, playing an important role not only in livestock production but also in the changes in the agricultural structure and encouraging the development of sheep production in Ninhthuan province and other neighbouring provinces.

Reference

Ly, L.V., D.V. Tien and N.K. Duong, 1994. Biological characters and future development of Phanrang sheep. In: On the results of the livestock genetic conservation in Vietnam. Agricultural Publishing House, Hanoi. pp 47-54