

The breeding and management of farmed sika deer

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According to the historical records, sika deer have been farmed in China for more than 300 years. Jilin is the birthplace of sika farming in China where some people began farming deer in 1733.

Since 1950, deer farming has developed very quickly all over China. There are about 300,000 farmed deer in China and 85% of them are sika. Over many years we have accumulated much experience about deer breeding, feeding, product processing, disease prevention and cure. This paper attempts to introduce farmed sika deer breeding and management.

The Age of Sexual Maturity

From research it has been found that sika will become sexually mature at 15 to 18 months of age. In practice we usually select the breeding female over 16 months old and with good body growth, and the breeding male over 30 months of age. If the breeding animal is too young, the conception rate will be low, and the calf will be weak. If there is selection opportunity, breeding from animals over three years of age is preferred.

The Oestrous Features of Sika

The oestrus of sika occurs in September, October and a few in November. During the breeding season, the hinds show cyclical multi-oestrus. The average oestrus interval is 12 days, ranging from 7 to 21 days. The heat period can last 12 to 36 hours. Mating in the middle of the heat period achieves the highest conception rate. During the breeding season

stags remain continuously in rut and can mate at any time of the oestrus period.

In the mating season, stags clean their velvet, food intake drops, animals become excited, there is bugling, aggressiveness, testis enlargement, neck swelling and antlers become calcified. Hinds show dysphoria, movement around pens, swollen and reddening of genital organs, and mucus secretion. During this period of time the hinds readily accept stags.

Pregnancy and Calving of Sika

The gestational period of sika is 235 ± 5 days. Sika reared in pens usually have a three day longer gestation period than that of wild sika or those reared on pasture. Hinds carrying twins have a gestation period of about 240 days, and those carrying female calves 1 to 3 days longer than those carrying male calves. The length of gestational period is related to the feeding and management of animals and the individual hind. If the hinds are under good farming conditions and have enough movement, the calving can be early and the calves usually grow and develop well. If the hinds are in bad body condition under poor farming management, the calving is often late and the calves develop and grow slowly.

Calving is concentrated in May and June, with some animals calving in July and very few in August. From our experience, calving in May or June is better than later. In this period of time, the temperature is not very high, there is little rain, there is rich green feed, so calves can have a longer nursing time and get to high body weights. The calves born in July or August usually don't develop very well.

The Mating Strategy of Sika

In accordance with the Chinese deer farming system, both artificial insemination and free mating methods are used. Natural mating is accepted by most farmers. The specific methods are as follows:

- Group mating: 50 to 60 hinds are run with 12 to 15 breeding stags in the same pen (male:female = about 1:4). During the mating season stags which are diseased or

of low libido are removed. With this method, high conception rates are achieved but there are no clear pedigrees.

- **Stag rotation system:** 20 to 25 hinds are placed in a pen with one stag out of a selected group of 2 to 3 sires. The single sire is changed every 4 to 5 days. With this method, high conception rate is achieved but the system is time consuming.
- **Single sire mating group:** In this system 20 hinds are run with one breeding stag until the end of the mating season. Libido and semen testing is done on the stag before the mating season starts. With this method pedigrees can be determined and a good conception rate is achieved.

70 cm wide. Set about 20 to 30 cm above ground.

Water trough: fixed in the corner of the south side: 120 to 180 cm long, 50 to 60 cm side and 20 to 30 cm deep.

Sika Pen Design and Construction

The pen is the basic facility for Sika farming in China.

- **Area:** this depends on the type and sex of animal. Usually the shed is 11 m long and 6 m wide and the playground is 27 m long and 11 m wide. A pen like this holds 2 to 30 stags, 20 to 25 hinds or 35 to 40 young animals under 2 years of age. The pen area per animal is shown in the following table.

Sika pen construction area (m²/head/animal)

Animal Type	Shed	Playground	Age (years)
Male	2.0-2.5	9.0-11.0	> 2
Female	2.5-3.0	11.0-14.0	> 2
Young	1.5-2.0	7.0-8.0	< 2

- **Daylighting:** Sika pens should be built in a sheltered place with a dry sunny exposure.
- **Drainage:** the floor of the pen should have a slope of 3 to 5 cm to prevent water flowing backwards into the shed or accumulating inside the pen.
- **Structure:**
 - Walls:** built in brick, 3 m high, 37 to 40 cm thick.
 - Shed:** should be dry, well drained and solid. Usually built with lime, sand and soil mixture.
 - Pen door:** in the middle of the south side front wall, 1.5 to 1.7 m wide and 1.8 to 2.0 m high.
 - Feeding trough:** fixed in the middle of the playground: 300 to 350 cm long, 20 to 30 cm deep, bottom 40 to 50 cm wide and top