

Pre-weaning Care and Management in Rabbits (*Oryctolagus cuniculus*)

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Introduction

Rabbitry is gaining popularity as an alternative source of animal protein for human consumption, among developing countries. Rabbit meat is known for their protein content and low cholesterol levels. Rabbits compared to other small ruminants requires less space for rearing and serve as a best alternative, owing to its short gestation period, high fecundity, early sexual maturity and litter size. The commercial viability of a rabbitry is majorly dependent on the care and management of lactating does and kits during the weaning period. The present article focusses on the factors influencing the growth and survivability of the kits during pre-weaning period and the care and management aspects to be considered to ensure the same.

Breeding Doe

Rabbits attain sexual maturity between 5-6 months of age. Does attaining the age of 4 months must be reared in individual galvanized iron cages of 2.5×2.5×2.0 ft (L×W×H). The cages should be equipped with provision for access to water through nipple drinking system (Fig.1) or water trough. Concentrate feed prepared from Maize (50%), Ground Nut Cake (26%), Wheat Bran (22%) and Mineral Mixture (02%) coarse ground and evenly mixed should be offered at 5-6 % of body weight of the animal/doe on dry matter basis. The concentrate feed must be offered in feed trough/hopper (Fig.2) tied to the cage with ease in accessibility for the doe. It is also suggested to feed the breeding does with 30-50 gm of Lucerne/Hedge Lucerne daily as a source of protein and fibre. The age and growth (Body Weight) of the doe at the time of breeding plays a crucial role in determining the survivability and growth of kids during initial stages of pre-weaning period. The does selected for

breeding should have attained a minimum body weight of 2 kg and are 5 months old. Oestrus cycle in rabbits is irregular and detection of heat in does is often difficult, whereas the pink colouration of vulva is often associated with heat period. The does in heat readily accept the ram when introduced in to the cage for breeding. As standard practice, the does selected for breeding must be introduced in to the male cage for mating. The rams start sniffing the does around rump and neck once introduced in to the cage, considered as primary sexual order followed by mounting and intromissions. The mating should be observed for successful ejaculation by rams, which is indicated by falling back off from the mounting posture and associated with a shrill cry. Does are induced ovulator and the intromissions/copulatory act by rams(male) often initiates the release of ova. The presence of semen/motile sperm in the uterus at the time ovulation ensures successful fertilization. Hence, it is advised to introduce the dam in to the same male cage the next day, to ensure the process of conception. It can be observed that the does that have conceived during the first instance of mating will not allow mounting of the ram, when introduced for the second time. The does should be allowed to be with ram for a period of two hours, every time they are introduced for mating. Pregnancy diagnosis should be carried out between 12-14 days from the date of mating. Abdominal palpation of pregnant does reveal presence of growing mass, resembling bunch of grapes indicating the growing foetuses.



Fig. 1. Water Drinking(nipple) System



Fig. 2. Feed Trough



Fig. 4. Kindling (Act of Delivery)

Pregnant Doe

The gestation period in rabbits ranges between 28-32 days. The characteristic nesting behaviour where in the does initiates building a nest for its kits by plucking its own fur can be observed about 24-48 hrs before the time of kindling (Act of Delivery). The other signs of restlessness, of feed and increased respiratory rate can also be observed before the onset of kindling. Nest box of dimensions (12"×24"×12") made of wood are introduced in to does cage, two days before kindling. The does before the onset of kindling, starts building nest inside the box. Most of the does often deliver kits inside the box, with exceptions for few. Does usually gets in to the next box and nurse the young kits once or twice a day. The litter size among the rabbit's ranges from 4-12. The kits on the day of birth weigh between 50-55 g. The kits born in to smaller litter usually weight heavier and have easy access to dam's milk compared to those born in to large litter. Hence, it is advised to ensure the weaklings to get access to dam's milk through assisted milking. Lactation period in rabbits ranges between 3-4 weeks. (Fig.3-6)



Fig. 3. Nesting Behaviour



Fig. 5. Kits with closed eyes and fur (5-6 days old)

Kits

Kits are born furless and with closed eyes. Fur starts growing between 5-6 days and kits open their eyes between 10-12 days of age. Till the kits reach two weeks of age it is mandated that the kits be kept in nest box covered with dam's fur as nesting material. Though the fur acts as absorbing material for urine excreted by kits, it is advised to change the nesting box every two/three days. Weaning period among rabbits' range between 28-30 days and kits depend on dam's milk during the weaning period. As stated above the weaker among the litter might face challenges in competing with other litter mates for access to milk and hence should be provided with assistance for the same. They start feeding on greens and concentrate feed from 14-16 days of age onwards. The nest box must be removed at three weeks of age of kits, by which they are grown enough to move around in the galvanized iron cages. The kits are weaned between the age of 28-30 days and moved on to individual

cages of 1.8×1.8×1.8 ft (L×W×H) dimensions and reared individually up to the age of sexual maturity. On the day of weaning the kits are ear tagged, which helps in identifying the kits and maintaining individual growth and performance records, a mandated practice for selection of breeding stock. The tags selected for tagging could be either made up of copper (of least thickness) or larger sized wing bands used in poultry. The tags must be numbered as per need and should be clipped through the inner ear at the centre with a simple tool, such that the tag covers the entire half of the ear. This prevents the tag from getting stuck to cage or falling off from the ear. Simultaneously the kits are sexed and reared separately post-weaning. The sexing of kits follows the standard rule of identifying male and female based on distance between anal and genital pore. Female the distance would be shorter compared to males, whereas among female the slit would be vertical in genital pore and males would have an oval shaped protrusion at genital pore. The kits once weaned should be reared individually up to the age of sexual maturity. As they go through the prime period of growth they should be fed with concentrate feed at 8% of body weight on dry matter basis.

Reference:

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*Figures/Images: Rabbit Research Centre, College of Veterinary Science, Rajendranagar-30