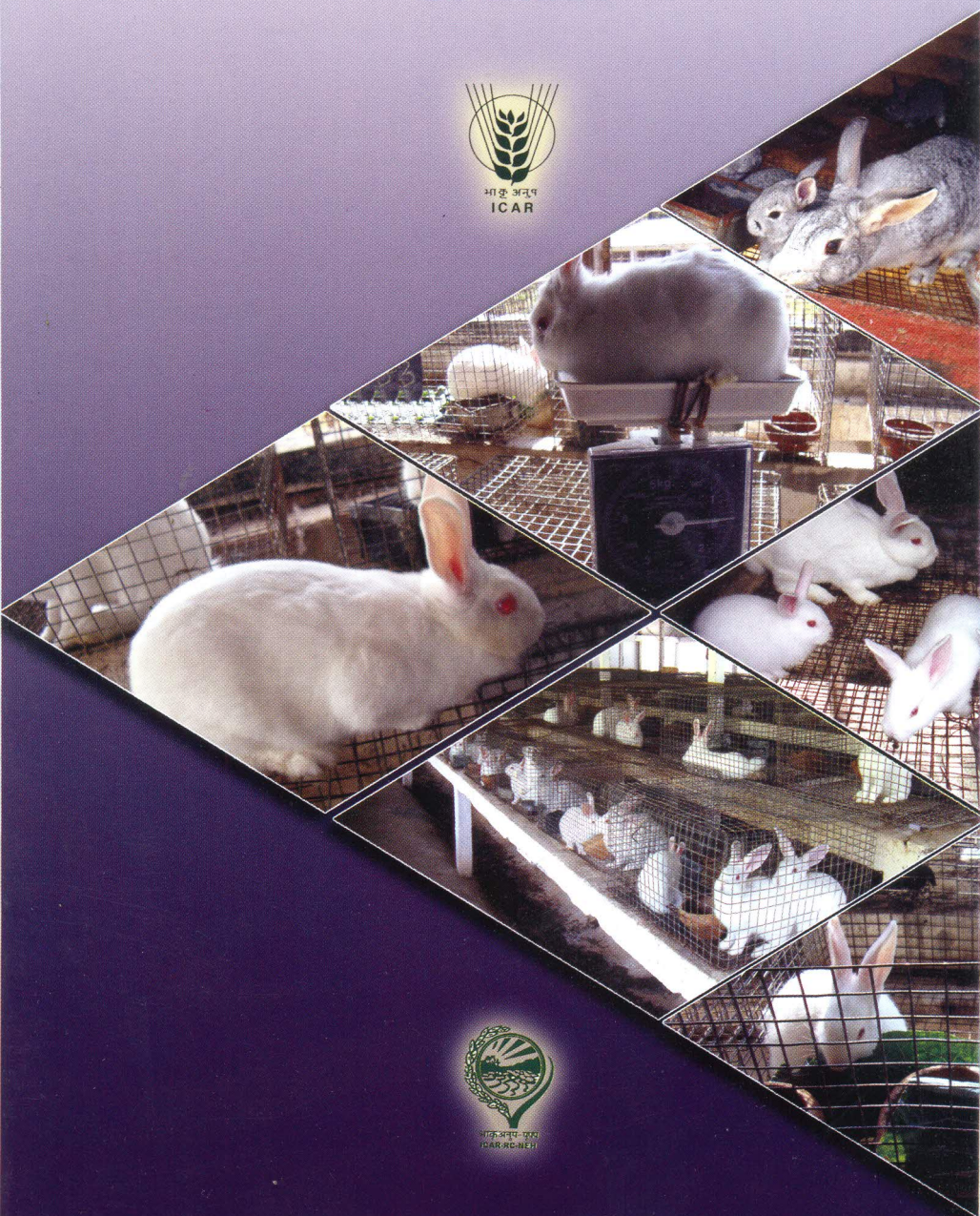


SCIENTIFIC MANAGEMENTAL PRACTICES FOR BROILER RABBIT PRODUCTION IN NORTH EASTERN HILL REGION OF INDIA



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North Eastern Hill Region is one of the highest meat consuming zones of the country, where consumption and demand of meat is very high. The people of this region are generally free from any form of taboo regarding the consumption of meat. Considering the heavy demand of meat and meat products, farming of broiler rabbit in the NEH region has tremendous scope as an alternative source of meat.

Advantages of rearing broiler rabbit

Rearing rabbit for meat production has a numbers of favavourable features that makes it a highly valuable meat animal in north east hill region.

- ◆ **Easy to maintain:** Having smaller body size of the broiler rabbits, they require less space for accommodation and feeding.
- ◆ **Fast growth rate:** The broiler rabbit can attain body weight of 1.8 to 2.0 kg in 90 days (age at marketing), which mainly depends on breed and type of feeds supplied to them.
- ◆ **Short generation interval:** Rabbit is fast multiplier and matures at the age of 5-7 months. The gestation period is also short (30 days).
- ◆ **High reproductive potential:** Being an induced ovulator, rabbit can be bred at any time of the year and even 24 hours after kindling. If properly managed, an adult female rabbit (doe) can produce about 4-5 litters with an average litter size of 5-6. Thus a rabbit can produce a total of 20-30 offsprings in a year.
- ◆ **Utilization of non-conventional feeds:** A small unit of rabbit can be successfully raised in the backyard with vegetable or kitchen waste, green fodders and tree leaves. Unlike pig and poultry, they do not compete for food grains meant for human consumption.
- ◆ **Fewer incidences of diseases:** There are fewer incidences of infectious diseases and worm infestations in rabbit except few protozoal and external parasitic diseases.
- ◆ **Good quality meat:** The meat of rabbit is enriched with quality protein, vitamins and very delicious as compared to the meats of other farm animals. It is one of the best quality lean meats available in the market with less fat and calorie value. Rabbit meat is almost free from cholesterol and therefore very useful for heart patients.
- ◆ **Fur skin:** Besides meat rabbit also provides fur skin and pelt as byproduct that can be utilized for preparation of hand gloves, caps, purse, and jackets for children etc.

Breed selection for broiler rabbit:

Choosing the right breed is very important for successful farming of broiler rabbit. There are approximately 89 internationally recognized breeds of rabbits, which are found in different sizes, colour and shapes. Two meat breeds of rabbit are available in the region and for broiler farming and found to be suitable for this region; they are New Zealand White (NZW) and Soviet Chinchilla (SC).

Some basic management practices:

Like other farm animals, successful rabbit farming requires certain scientific management practices for optimum production of rabbit for meat and overall profitability of the rabbit farm. The important management

practices are housing, feeding, breeding, health and some other routine management practices.

Housing management:

Housing management plays a very important role for a successful rabbit production. The main objectives of proper housing are to protect the rabbit from direct sunlight, wind, rain and to provide privacy to the female while kindling (giving birth to young ones). Housing for rabbits depends on the location of rabbit farm, local climate and size of the enterprise. The rabbits may be reared in three systems viz. Cage system, Hutch system, and Floor system.

Cage system:

In the cage system, the cages are arranged inside the shed in single, two or three tier systems. But single tier system is preferred at small rabbit farm. The size of the shed depends upon the number of animals to be reared. The general size of the cage is 2.5' x 2' x 2.5' made of welded wire net (16-18 gauze) with hole size of 0.75".



The cages are generally placed on metal stands or cement pillar at about 2-3 ft above the ground level. Below the cages, the floor should have a drainage system for easy cleaning of urine and fecal materials regularly. This system is generally recommended for semi-commercial and commercial scale rabbit farming.

Hutch system:

It is a self-contained cage, which can be moved from one place to another as and when required. In a hutch, on an average 5 compartments are provided in a row. The size of each compartment may be of 3.5' x 3' x 3.5' with welded wire mesh.



The floor should be made of welded wire mesh for easy cleaning. Normally floor should be 2-2.5 feet above the ground level. The walls of hutch can be made of bamboo or iron frame. The roof may be constructed of thatch grass, CGI sheet or Polypolin. It is economical

to construct hutches with locally available materials. This system is generally used for small and backyard rabbit farms.

Floor system:

Floor system is just like deep litter of poultry, however this system is not suitable in this region due to heavy rainfall. The floor space requirement for each rabbit is 4 sq. feet.

Feeding management:

Feeding is very important for profitable production of broiler rabbit. The feeds of rabbit contain both concentrate and green fodder. However, rabbits reared in the backyard system with small unit can be managed on kitchen waste and other vegetable or locally available forages. The concentrate feed should be given before feeding of greens or roughages. The average concentrate feed requirement per adult rabbit per day is 600-120 gm, which is to be given in two equal doses in the morning and evening. The feed requirement for weaners (1.5-2 months of age) is 50-60 gm while for growers having age 2-3 months and 3-4 months are 60-80 gm and 80-100 gm per day, respectively. The concentrate feed should be nutritionally balanced and can be prepared from various ingredients with different proportion to meet the required nutrients. One of the commonly used compositions of the concentrate feed for weaner and finisher rabbit is given as below.

Ingredients	Weaner (%)	Finisher (%)
Maize crush	32	39
Wheat bran	25	24
Rice polish	15	15
Ground nut cake	15	10
Soya bean meal	10	10
Mineral mixture and vitamins	2.5	1.5
Common salt	0.5	0.5

The concentrate feed can be reduced if good quality leguminous roughages be provided to the animals. The type of feed should not be changed suddenly, therefore it is suggested to replace the feed partially day-by-day and complete changes can be done after 4-5 days. Clean drinkable water should be provided ad-lib throughout day and night. A regular time table of feeding must be followed for better production. Readymade pelleted feed available in the market is advisable for commercial farm.

Breeding (Reproduction) management:

For profitable rabbit farming, reproduction management plays a very crucial role. Broiler rabbits generally attain maturity at the age of 6-7 months. For successful mating the female rabbit should be taken in to the cage of male rabbit. After mating is over, the male rabbit generally falls down on either side of the female with a typical groaning sound. Mating should be done either in the morning or in the evening. To get better conception rate the female may be mated twice on the same day. If the female does not allow the male, the same procedure can be repeated after 4 days. Sometimes some does require assisted mating. The male to female ratio for efficient breeding should be 1:5. The buck should not be overfed to avoid overweight and decreased libido.

The average pregnancy period in rabbit is of 30 days. A nest box or dry clean bedding materials like hay/paddy straw should be provided around 25th day of pregnancy to help the doe (female rabbit) in preparing nest for the new born babies. Through proper planning and management practices

about 4-5 litters (delivery) may be obtained from each female per year. A doe generally give birth to 5-6 kits in each delivery (litter size).

Care and management of newly born kits:

The newborn kits are devoid of body hair and are blind. They start developing hair from 4th day and open their eyes after 10th day. The mother gives milk to her young ones once or twice a day. The young ones should not be disturbed except for checking the dead kits and removing the soiled bedding. Sometimes doe kills her own kits or does not give milk especially after first kindling, if that particular doe repeats the same habits, in next kindling it is advisable to cull her.



Weaning of kits:

The young kits can be separated from their mother (weaning) between 42-45 days of age depending on their growth and capacity to feed intake by them. No sudden change of feed is advisable during weaning period. It is always better to keep them in group along with their littermates for a few days after which they may gradually be shifted to the individual cage. Sexing and numbering of the young ones are being done at the time of weaning.



Determination of sex of young rabbit:

This is known as 'sexing' and is usually carried out at the time of weaning when the sexes are fairly easy to distinguish. The young rabbit is balanced on the forearm with the hand under the rump. The thumb and forefinger of the other hand press down gently on either side of the sex organ. In male the penis will protrude as a rounded tip, while in female the protruding vulva will appear as a slit.

Giving identification number:

In order to identify the individual rabbit, it is necessary to mark them after weaning. One of the most common methods of identification in rabbit is *tattooing*, which is done at inner side of the ear.

Health care and management:

Good management and hygienic condition prevents occurrence of diseases. The shed, cages, feeding and watering troughs and nearby surroundings should be regularly cleaned. A foot bath should be arranged at the entry gate to prevent spread of diseases. It is also advisable not to allow the outsiders to handle the animals to prevent contamination and injury. Some of the important diseases of rabbits are coccidiosis, ear canker, mite's infection, mucoid enteritis, snuffles and aflatoxicosis. Most of these diseases can be prevented through proper management. If any disease occurs in the farm, local veterinarian should be consulted immediately.

Other routine management practices:

Apart from the above management practices, the other routine management practices at rabbit farm includes carrying out day-to-day works like cleaning of farm premises and feed equipments, record keeping, identification, sexing and other periodical routine works like weighing, pregnancy diagnosis, shifting of pregnant female to kindling box, culling of unproductive rabbit, deworming, isolation and treatment of sick animals etc.

Slaughter of rabbit for meat and fur:

Rabbits for meat are generally being slaughtered at the age of 90 days. At this age the rabbit weighs around 1.7 kg. The dressing percentage is around 65%. A mature rabbit, however, will weight between 2.5 and 4.0 kg and approximately 62% of it will be dressed meat. Rabbit meat is very delicious and rich in quality protein and vitamins. After slaughtering the rabbits the skin so obtained can be processed to use as fur or pelt for making jacket, hand gloves etc. Farmers can easily earn good amount of income through selling of live rabbit, meat and slaughter by- products in the market.

Therefore, it is recommended that if scientific management practices of broiler rabbit farming are followed, it can be a highly profitable business to the farmers of this region and livelihood of the resource poor farmers can be improved.

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