Broiler Rabbit Production in Tripura

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Tripura (west)
TRIPURA
Broiler Rabbit Production in Tripura

North-Eastern Hill Region as a whole and Tripura in particular has been identified as a meat consuming zone. But there is a wide gap between demand and availability of meat here, the availability being only 4.66 g per day per head instead of the recommended level of 87.0 g. The cost of production of meat is also very high because of the high cost of feed which has to be purchased from outside the state. After careful considerations of all aspects of agro climatic conditions, land scaping, demand, people's acceptability, quality of meat and cost effectiveness, rabbit is being considered to be the animal of choice to fulfill the growing need of meat in this region.

Advantages of broiler rabbit farming

- Breeds of broiler rabbit viz., New Zealand White and Soviet Chinchilla are well adapted to agro climatic conditions of Tripura.
- They grow very fast and attain 1.8-2.0 kg in 90 days of age.
- Broiler rabbits are very prolific in nature. Female rabbit (doe) can give birth 4-5 times a year.
- Can survive on a wide range of green grasses.
- Broiler rabbit farming gives early good return with least investment.
- Disease problems are minimal and almost free from any worm infestation.
- Does not require any special care and management for broiler rabbit rearing.
- Rabbit meat is almost cholesterol free and does not attach any taboo for its consumption.
- Rabbit excreta is a better organic fertilizer than those of other animals (N 3.7%, P 1.3% and K 3.5%).

Why to eat rabbit meat?

- It is one of the best white i.e totally lean meat available in the market.
- This meat is having high percentage of easily digestible protein.
- It contains the least fat content among all the meats.
- There is no religious taboo attached to the consumption of this meat.
- Rabbit meat is almost "cholesterol free" and therefore, heart-patient can eat this meat instead of other meats.
- It is the highest nicotinic acid (13 mg/kg) containing meat.
- Usually a commercial rabbit yields between 60-65 per cent dressed out meat which means consumer gets higher percentage of meat from a live one.
- Ratio of meat to bone (5: 1.2) is quite high and higher than chicken.
Due to its excellent quality, taste, flavour and appetizing nature, rabbit meat is now becoming more popular among the people of all communities.

**Breeds of choice**

It is very important to choose the right breed to start broiler rabbit farming. Popular broiler rabbit breeds are New Zealand White, Soviet Chinchilla, California, Giant Blanc etc. Out of these breeds, New Zealand White and Soviet Chinchilla were evaluated at ICAR, Tripura Centre (Table 2).

**Housing**

For scientific and profitable rearing of broiler rabbit, housing plays an important role. Housing for rabbits depends on the location of rabbit farm, local climate and size of the enterprise. Neat design and comfort are essential. There are three types of housing systems—individual cage, hutch and colony system.

In the cage system, the cages are arranged inside the shed in single, two or three tier systems. But single tier is preferable at small farm. The cages are made with welded wire mesh placed on metal stand and about 2-3 ft above the ground. The space of a single cage is 50 cm x 40 cm with a height of 45 cm for keeping rabbit from 42 days onwards. Below the cages, the floor should have a drainage system for easy cleaning of urine and faeces regularly. The roofing should preferably be of asbestos, thatch or other locally available materials.

The hutch system is a self-contained cage-cum-nest. There can be 2-10 hutches in a row. This system is generally used for small and backyard rabbit farm. It is economical to construct hutches with locally available materials. Walls may be made using multi bamboo, floor by the welded wire mesh for easy cleaning and roof by the chan grass. Floor should be 2-2.5 ft above the ground. The floor space measurement for single hutch is 3.5 x 2.5 ft with a height of 3.5 ft at the front and 2.5 ft at the back. Generally, 5-6 rabbits can be kept in each compartment. In colony system, more number of rabbits can be kept together from
weaning to marketing age (90 days). The walls of colony house system can be made *pucca* to half the height and rest half with wire net. The floor is concrete. Roof can be made using corrugated tin or bamboo. Size of a room is 10 x 10 x 10 ft. Twenty five to 30 rabbits can be kept in this room.

As feeder and waterer, aluminium bowls of 500 ml capacity or baked earthen bowls are used.

**Points to be considered before constructing a rabbit house**

- Must have adequate space otherwise stress and injury may occur.
- House must be rainproof as they can't tolerate wet conditions.
- Rooms should be well-ventilated and free from dust.
- Preferable temperature is 10-25°C but meat breed can tolerate temperature as high as 35-40°C. Try to keep indoor temperature 32°C with relative humidity of 60-70%. So, use housing material which can cool the room.
- Rabbitary should be at quiet place as animals get frightened easily by sudden noise and presence of predators.
- Rooms should be clean and hygienic and a well drained site is important.
- House must be in east-west direction to give protection from the sun.

**Productive and Reproductive care**

For profitable broiler farming, reproduction plays a vital role. Female rabbit is ready to accept male at about 6 months of age whereas male (buck) starts mating from 7 months onwards.

- For successful mating, doe should be put to the buck’s cage and watch carefully for successful mating. In successful mating, doe emits a sound and buck falls on either side of the doe. If female does not allow the male, repeat the same procedure after 4 days. Sometimes some does require assisted mating.
- Right time of mating is either early morning or evening of a day.
- Check the pregnancy 14-15 days after mating by palpating the abdomen. If not pregnant, go for rebreeding.
- Their pregnancy period is around 30 days.
- Pregnant doe should be shifted to the kindling cage at 25th day of pregnancy.
- Pregnant doe generally starts making nest by plucking her own hair one or two days before kindling (delivery). If she does not pluck hair, give some fine quality straw in the cage.
- A doe generally gives birth to 6-7 kits. Kits are devoid of any hair and eyes are closed.
- Watch carefully immediately after birth and check the condition of kits. Do not touch the kits until some emergency comes and use the gloves in such a case.
- Doe gives milk once or twice a day. So, keep all the kits together for proper feeding.
Remove dead or defective kits from the cage.

Sometimes doe kills her own kits or does not give milk especially after first kindling. If that particular doe repeats the same habit at the next kindling, it is advisable to cull that doe.

Give adequate amount of balanced ration along with plenty of clean drinking water for the production of sufficient milk.

Eyes of kits generally open at the age of 10 days.

Hair start growing from two weeks of age.

At three weeks of age, kits will also start taking feed along with mother's milk.

Best time to wean kits is at 42 days.

Breeding buck and doe should be kept in individual cages.

Rebreeding of doe should be performed immediately after weaning.

One adult doe can give 4-5 kindlings a year depending on the space availability and scientific management practices.

For efficient breeding of rabbits, the male to female ratio should be 1:5.

A mature buck can successfully mate 4-6 does a week.

Buck should not be overfed to avoid overweight and decreased libido.

Keep the productive and reproductive data of buck and doe.

Feeding

Feeding is very important for profitable broiler rabbit farming.

Feed should contain both concentrate and green fodder (25-30:70-75).

Concentrate should be given before feeding greens.

The quantity of concentrate feed needed by the different groups of rabbits is:

- Weaned (42-70d) - 50g
- Grower (71-90d) - 80g
- Adult Male - 100g
- Adult Female - 200g

Feed should be given twice a day.

Make round ball with balanced ration and molasses. Pellets are given as such.

In summer, they generally eat at night whereas with the onset of winter, the requirement increases and time of eating is shifted to the day time.

A regular time table for feeding is advisable.

Do not change the feed suddenly, replace partially day-by-day and complete change can be done after 4-5 days.

Green should be fed ad libitum (free choice).

Plan properly for cultivation of fodders to get adequate supply throughout the year.

Cultivate perennial grasses like dub, hybrid napier, Guinea grass, para grass etc.

Annual fodders like- maize, oat, cowpea, rice bean carrot, radish leaves, cabbage, cauliflower, chinese cabbage etc. are well relished by rabbits.
Mulberry leaves are one of their choicest fodder. Cultivate mulberry plants which supply the fodder throughout the year.

A fodder area of 80 m² is sufficient for rearing 10-12 rabbits.

Normally, one broiler rabbit consumes 1.9 kg concentrate and 8 kg green fodder up to 90 days of age.

Concentrate ration can be prepared by mixing different ingredients in different combinations for broiler rabbit. One of them could be (kg/100 kg) maize-32, wheat-14, wheat bran-5, broken rice-11, ground nut cake-15, soybean meal-13, molasses -7.5, mineral mixture-2 and salt-0.5 parts.

Periodical vitamins therapy should be done.

Clean water should be made available throughout the day. Generally, one adult rabbit drinks 300-400 ml water per day.

Table 1. Daily nutrient requirements of rabbits (ICAR, 1998)

<table>
<thead>
<tr>
<th>Nutrients</th>
<th>Growth (Kcal/kg)</th>
<th>Maintenance (Kcal/kg)</th>
<th>Gestation (Kcal/kg)</th>
<th>Lactation (Kcal/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digestible energy (%)</td>
<td>2,500</td>
<td>2,300</td>
<td>2,500</td>
<td>2,500</td>
</tr>
<tr>
<td>Crude protein (%)</td>
<td>18</td>
<td>16</td>
<td>17</td>
<td>19</td>
</tr>
<tr>
<td>Crude fibre (%)</td>
<td>10-12</td>
<td>12-14</td>
<td>10-12</td>
<td>10-12</td>
</tr>
<tr>
<td>Ether extract (%)</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Health care

Health care is an important part of rabbitry for more returns. A good owner should devote time to look at his animals carefully every day.

- Coat of the animal should be glossy with no dull patches.
- Rabbit should appear alert and bright eyed without discharge.
- Free and easy movement.
- Normal appetite is a sign of good health.
- Stool should always be normal.
- Rabbit should not appear 'Bony', ‘Fatty’ or “Pot bellied”.
- Skin/ear should be free from any sore.
- Keep the sick rabbit in isolation.
- Clean hutches and utensils regularly.
- Always provide clean feed and water.
- Keep insects and flies away from rabbit houses.
- Newly introduced rabbit should be kept in quarantine for at least one month.
Some diseases like coccidiosis, snuffles, sore feet, mange, mastitis etc. are observed in rabbits.

**Coccidiosis**
- It is a protozoan disease affecting mainly intestine with the symptoms of diarrhoea with or without blood, off-feed, rough body hair, depression and death.
- Preventive therapy with coccidiostat (Sulmet®) should be given at day 21-23 and at day 42-45 every year.
- Regular cleaning and disinfection of cages and hutches is must.
- Give clean water and feed regularly.

**Snuffles**
- It is a very contagious bacterial disease with the symptoms of thick, sticky white nasal discharge, sneezing and high temperature.
- Proper ventilation is the most important to avoid this disease.
- Antibiotic treatments cure the cases.

**Sore Feet**
- Rabbit will be lame and unwilling to move. Inflamed sored areas on bottoms of the feet (hind legs).
- Damage occurs generally from sharp pieces of floor wire and wet solid floor.
- To prevent this, provide good comfortable floor to the rabbit.
- Apply antiseptic cream to the wound.
- Badly injured rabbits are advised to be culled.

**Mange**
- It is a parasitic disease affecting the skin, ear and mouth causing wound and irritation leading to stunted growth. This disease spreads either by contact with an affected rabbit or by contamination of hutches, bedding, feed or equipments.
- Regular checking of rabbits, isolation of affected rabbits, thorough cleaning of hutches reduce the chance of this infection.
- This disease may be treated successfully with ivermectin injections 21 days apart.

**Mastitis**
- It is an inflammation of mammary glands.
- Mammary glands become painful with a change in colour and the doe will not let her litter to suck and kits will probably die.
- It is usually caused by bacteria because of injury to teats. Dirty nest aggravates the situation. Clean nest and bedding prevent this condition.
- Antibiotic treatment is advocated to treat this condition.
- Try to foster the kits if they are very young.
Table 2. Production performance of New Zealand White and Soviet Chinchilla Rabbits at ICAR, Tripura Centre.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>New Zealand White</th>
<th>Soviet Chinchilla</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gestation period (d)</td>
<td>30.9</td>
<td>31.0</td>
</tr>
<tr>
<td>Litter size at birth (No.)</td>
<td>6.5</td>
<td>6.2</td>
</tr>
<tr>
<td>Litter wt. at birth (g)</td>
<td>308.9</td>
<td>327.7</td>
</tr>
<tr>
<td>Litter size at weaning (No.)</td>
<td>5.3</td>
<td>5.2</td>
</tr>
<tr>
<td>Litter wt. at weaning (kg)</td>
<td>3.9</td>
<td>3.9</td>
</tr>
<tr>
<td>Individual wt. at weaning (kg)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>0.87</td>
<td>0.78</td>
</tr>
<tr>
<td>Female</td>
<td>0.74</td>
<td>0.75</td>
</tr>
<tr>
<td>Individual wt. at 90 d (kg)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1.86</td>
<td>1.85</td>
</tr>
<tr>
<td>Female</td>
<td>1.84</td>
<td>1.90</td>
</tr>
</tbody>
</table>

Therefore, the farmers should take care of breeding, feeding, housing, health aspects etc. so that the meat production from rabbits is profitable. It is hoped that the points as given above would help the farmers particularly marginal ones, landless labourers and tribals to raise the broiler rabbits in a scientific manner which would fetch them more returns and provide better nutrition.

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