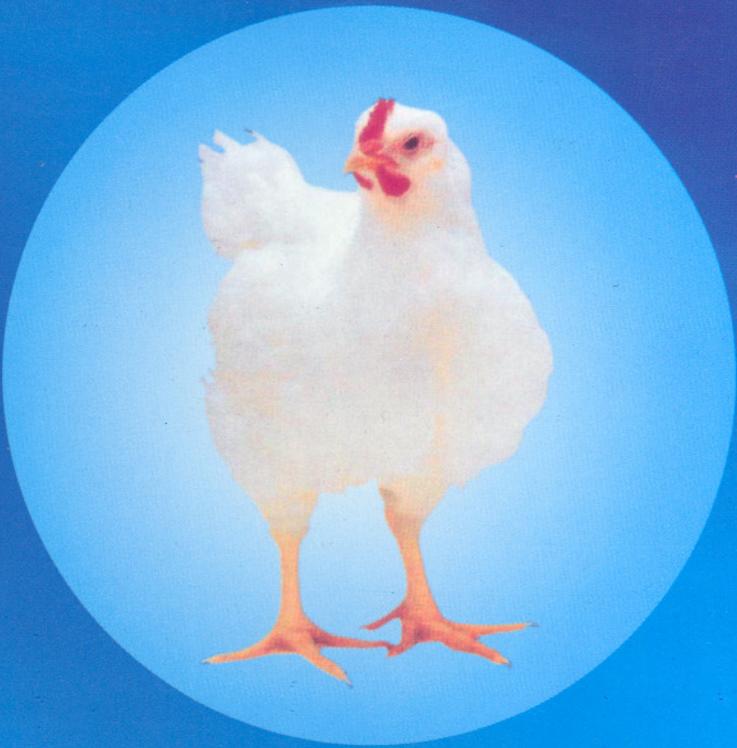




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BROILER PRODUCTION TECHNOLOGY FOR NEH REGION



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Tripura

BROILER PRODUCTION TECHNOLOGY FOR NORTH-EASTERN HILL REGION

In general, people of NEH are non-vegetarians. Chicken is a delicacy next to pork and fish for people of different states in the region. In this region commercial poultry production is still in infant stage and backyard poultry production accounts for more than 80 per cent of the total. In spite of less availability of inputs, farmers started rearing broilers in small numbers and they are getting remunerative price of about Rs 50-60 per Kg live weight of broiler. Some of the managemental tips for scientific rearing of the broilers are given below.

SELECTION OF BROILER CHICKS

A healthy broiler chick with fast growth is key to profitable broiler production. The modern day broiler chick should be capable of attaining an average live weight of 1.75 to 2.00 Kg at 6 weeks of age with a feed conversion ratio (FCR) of 1.9 to 2.1. FCR is number of Kg of feed consumed to produce one Kg of live weight. For maximum returns, chick should be of uniform size and weigh between 45- 55 grams.

SELECTION OF SITE

Site should be located on fairly raised area with good drainage system. Ensure good supply of water and electricity. There should not be any obstruction in movement of air and it should get maximum period of sunshine.

HOUSING

A satisfactory broiler house is the one that will protect the birds from heat, cold, strong winds, inclement weather and predators.

Direction : Long axis of house facing east to west

Plinth : 30 cm above ground level

Size :

Length - depending on no. of birds to be housed

Width - not more than 30 feet

Height - in the center - 3 to 3.5 meters

- on sides - 1.8 meters

Over hang on sides - 1.2 meters

Side walls : As the temperature of the region goes down below 10⁰C in winter, 0.9 meters wall area and mesh area of 0.9 meters is optimum.

Roof : The roof should either be lean or gable type. It should be weather proof and made up of asbestos or GI sheet.

Floor : Concrete floors are highly recommended. They are rat proof and easy to clean and disinfect.

In NEH region, bamboo is abundantly available and small farmers can build a house made completely of bamboo. The floor has to be raised above the ground upto 50 cm. The side wall is half covered with bamboo and rest half is made like grill using bamboo. Roof is made up of bamboo covered with plastic sheet and / chen grass so that the investment on construction of shed can be reduced.

Ventilation

Proper ventilation of the house is needed to provide fresh air and to remove CO₂ and ammonia. Sufficient air movement is also required to keep the litter dry. The side walls of the shed are half covered and half open for providing draft free ventilation.

Disinfection

Poultry house should be scrubbed, cleaned, washed with clean water and disinfected with 3-5 per cent phenyl or cresol or any other disinfectant. White washing with lime may also be done on floor and inner walls of the house. The equipment like feeders, waterers, hovers and brooder guard should be cleaned, disinfected and finally burnt with flame gun/blow lamp.

Litter

Initially, litter should be put 2-3" deep on the floor. Normally used litter materials are rice husk, ground nut hulls, saw dust, wood shavings, chopped straw etc. Litter material should be dry and should not contain more than 5 per cent moisture. The litter material should be cheap, locally available and should absorb the moisture. Litter should be stirred periodically to prevent caking. Wet litter increases ammonia concentration in the poultry shed. If ammonia concentration is more in the shed, mixing of lime @ 1 kg per sq.m will help in reducing ammonia level.

Floor Space

Sufficient floor space should be provided to avoid overcrowding which may result in poor performance and mortality. Normally 1 sq. foot floor space per bird is sufficient and in winter even 0.75 sq. foot.

Feeding

Feed is the single largest factor contributing to 60-70 per cent of cost of production in broilers. Broilers should be fed balanced ration to support fast growth (1.5- 2.0 Kg) within a period of 6 weeks. It is recommended to give fresh feed 2-3 times a day which stimulates hunger in broilers and also prevents feed wastage.

The important nutrients need to be supplied in broiler ration are protein, energy, vitamins and minerals. Out of total protein requirement, two thirds

of protein should come from vegetable protein source like soybean meal, groundnut meal, sunflower cake etc. and to some extent from cereal and their by-products. Rest one third should come from animal protein source like fish meal and meat meal. Energy is mainly supplied through cereals and their by products like maize, wheat, bajra, rice polish, rice bran and wheat bran. Commercially available vitamin and mineral mixtures should be included in the ration. Locally available ingredients like *wild soti* and job tears grain can be included to economise the broiler feeding.

Modern day broilers require 20-22 per cent protein and 2900-3000 Kcal metabolisable energy per kg of feed depending upon the age. Generally one broiler consumes 3.5 to 4.0 Kg of feed to attain a live weight of 1.75 -2.0 Kg with FCR of 1.9-2.0 upto 6 weeks of age.

Nutrient requirements for broilers

Nutrient	0-4 weeks	5-6 weeks
Protein (%)	22-23	19-20
Energy (Kcal/Kg)	2900	3000
Calcium (%)	1	1
Available phosphorus (%)	0.5	0.5

Diseases

Fast growing broilers are prone to many diseases caused by virus, bacteria, fungus and other parasites. Important viral diseases are Ranikhet disease (RD), Marek's disease and Infectious bursal disease. Bacterial diseases are pullorum (*Salmonella*) and *E.coli* infections. Fungus infested feed contains toxin which cause diseases like aflatoxicosis and ochratoxicosis. Most important parasitic disease is coccidiosis. Viral diseases can be controlled by timely vaccination and bacterial diseases can be controlled by treatment with antibiotics. Coccidiosis can be prevented by incorporating coccidiostats in the feed. Fungal diseases can be avoided by selecting healthy grains and proper storage. In a well maintained farm, mortality should not be more than 3-5 per cent. "All in and all out" system that is bringing all the birds at a time and selling all the birds at one time, should be followed to minimise disease occurrence and mortality in the farm.

Vaccination schedule

Name of vaccine	Age	Route of administration
Marek's disease	day old	Intramuscular
R.D (F ₁)	5- 7 days	Intraocular/ Intranasal
IBD	15 days	Intramuscular
R.D (F ₁)	35 days	Intraocular/ Intranasal

Brooding

Brooding is caring of young chicks by providing warmth, feed and water. Equipment used for brooding is called brooder. The chicks require 60-65sq. cm. of hover/ heater space in the brooder. A hover with 4 feet diameter can accommodate 200-250 chicks. The brooder guard should be of 30-45cm height and arranged 1 meter away from the edge of the hover to prevent chicks straying from heat source, feed and water. Spread thick newspaper on the litter extending beyond the guard to prevent chicks from eating the litter. Feeders and waterers should be arranged in a cart wheel manner. On first day, little feed may be sprinkled on the paper inside the guard. After first four days move the guard further 0.5 meters away. Set the brooder operating at least 24 hours before arrival of the chicks. After one week remove the paper and brooder guard may be removed after 2-3 weeks depending on the season. On first day, brooder temperature should be 95⁰F and then reduce 5⁰F every week till 75⁰F. Optimum feed efficiency is obtained at 75⁰F from 4 weeks of age. As a thumb rule one point of feed efficiency is lost for each 2⁰F decrease in room temperature below optimum.

Lighting

Light should be provided during the night throughout the growing period. Lights should be fixed 2 meters above the floor and 4 meters apart. An intermittant lighting programme i.e. two hours on and one hour off during night improves feed efficiency and growth rate and a marginal saving on electricity.

Water space

Broilers need plenty of fresh, cool and clean water. Birds should not have to travel more than 3 meters for water. Wooden boards may be placed below the waterers to prevent the litter from getting wet. The height of drinking water should be adjusted to shoulder height level of birds. Allow 1.0 cm linear water space upto 2 weeks, 2.0 cm linear space upto 4 weeks and 2.5 cm linear space till market age.

Feeder space

Linear feeders are preferable for broilers.

2.5 cm linear - upto 2 weeks

5.0 " - upto 4 weeks

7.5 " - upto 6 weeks

As chicks grow, the feeders should be lifted up by adjusting their height to the birds back level. The level of feed has a direct correlation with feed wastage. As a thumb rule, 10 per cent of the feed is wasted if the feeders are two third full compared to 3 per cent wastage if they are half full and only 1 per cent if they are one third full.

Composition of broiler ration (per cent)

Ingredient	Starter ration	Finisher ration
Maize	59.1	66.74
Soybean meal	37.2	29.6
Shell grit	0.98	1.36
Di calcium phosphate	1.85	1.32
Salt	0.4	0.4
DL-methionine	0.193	0.09
Vit. AB ₂ D ₃ K	0.02	0.02
B.complex	0.025	0.025
Coccidiostat	0.05	0.05
Choline	0.1	0.1
Trace mineral mix	0.1	0.1
Total	100	100



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