

BROILER FARMING

**DEPARTMENT OF ANIMAL HUSBANDRY,
LIVESTOCK, FISHERIES
&
VETERINARY SERVICES**

GOVERNMENT OF SIKKIM



CONTENTS

Sl. No.	TOPIC	Page No.
1.	Introduction	1
2.	Commercial broiler breeds	1
3.	Dual Purpose breed	2
4.	Housing and Management of commercial broilers	2
5.	Housing system	3
6.	Poultry feed	4
7.	Feeding schedule	5
8.	Effective micro-organism (E.M.) Liquid	
9.	Application in broiler production	6
10.	Prevention and control of disease	7-9
11.	Vaccination schedule in broilers	9
12.	Bio-security measures in a broiler farm	10
13.	Marketing of broilers	10
14.	Scheme for establishment of 250 Vencobb broiler unit	11-12
15.	Scheme for establishment of 500 Vencobb broiler unit	13-14
16.	Scheme for establishment of 1,000 Vencobb broiler unit	15-16
17.	Comparative income statement between a government servant and a poultry farmer	17

COMMERCIAL BROILER FARMING

A broiler is a tender meated young chicken of either sex that grows from a hatch weight of 38-40 gms to a weight over around 1 Kg 700 gm in about 6 weeks time only.

Broilers today has emerged as the fastest growing segment for poultry industry with the increased acceptance of chicken meat in city, town and villages, the demand for broiler is growing in a fast pace.

During the last few decades, poultry farming has taken a quantum leap from a backyard venture into a fastest growing sector. In order to get maximum benefit from this industry, a proper knowledge on its technicality viz: breed, housing, feeding, management etc is essential.

Breeds of broilers reared for meat production are:

1. Commercial Broiler Breed:

- a. Colour broiler.**
- b. Hy-Bro**
- c. Vencobb**
- d. Caribro**
- e. Babcobb**
- f. Krishibro**

2. Dual Purpose breed:

- a. Rhode Island**
- c. Kuroiler Dual**

b. Red Vanaraja



d. Kalinga Brown

HOUSING AND MANAGEMENT OF COMMERCIAL BROILERS

A comfortable and growth specific housing area is essential for achieving optimum growth / body weight gain in broiler farming.

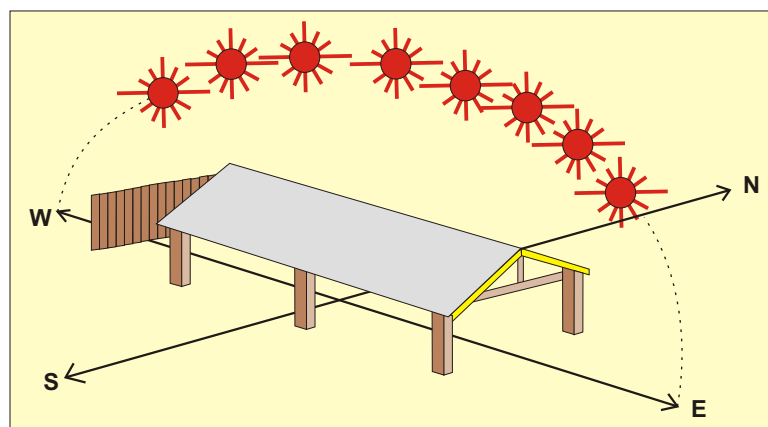
Following are the parameters to be taken care of for better housing and management:

Selection of site:

- Sufficient area of land.
- Good water supply.
- Preferably higher land to avoid water logging.
- Considerably far from housing estates and human activities.
- Good road connection for easy transportation.
- Electricity.
- Market access for procurement of inputs and selling of farm produces.

Housing Design:

- 1) Good ventilation.
- 2) Space requirement 1 sq ft / bird in deep litter system.
- 3) Lengthwise direction - east to west.



Housing System:



Raised floor system



Deep litter system

For building a low cost housing system, locally available material like bamboo, mud, thatch roof/chitra etc can be used .

Management:

Management is the vital part of the broiler farming to achieve desired production.

Following are the important parameters to be considered in management system:

1)Breed selection- Quality day-old chicks should be selected.

2)Preparation before arrival of chicks:

- Spray sanitisers on litter and entire poultry house.
- Removal of previously used litter and wash the house equipments.
- Spray selected disinfectants.
- Clean water pipelines.
- Fumigation of poultry house with suitable agents.

3) Brooding:

- Start brooder 24 hours prior to arrival of chicks.
- Adjust the temperature of hover to 95°F at first week and reduction by 5°F every week until 70°F.
- Place chick guard for first week.

4) Ventilation:

The house should be designed with cross ventilation to allow fresh air to circulate inside the shed by providing wire mesh net on two opposite sides.

5) Lighting: Continuous lighting from day old till marketing.

6) Floor space requirement: 0.8 to 1 sq ft / bird.

7) Deep Litter Management:

- Litter materials should be either saw dust, rice husk, chopped wheat straw etc depending upon availability.
- Fresh litter should be used for rearing pullets and new batches of birds.
- In order to avoid caking of litter due to high moisture level, humidity of the house should be maintained along with regular stirring of litter.

POULTRY FEED

As feed is the major cost of poultry production which significantly affects the production performance of the birds. So feed and feeding is the most important consideration for efficient poultry farming. Improper feeding not only affects the production performance but also causes several deficiency diseases.

Also, the feed needs to have all the nutrients (carbohydrates, protein , fats, minerals & vitamins) in right proportion. In addition some additives to facilitate digestion and growth is often added in reputed commercial feed.

Types of Feed:

0-10 days	Pre-starter
11-21 days	Starter
22 days till marketing	Finisher

FEEDING SCHEDULE

Estimated Feed consumption of Broilers:

**FEEDING SCHEDULE OF BROILER BIRDS at Mrs. Nochi Tsenden Bhutia
CHUJACHEN, UNDER POULTRY MISSION PHASE-I**

Age in days	Weight in grams	Body Weight gain/day
1st day	20gm/bird/day	45-55 gms
2nd day	22gm/bird/day	55-95 gms
3rd day	24gm/bird/day	95-135 gms
4th day	26gm/bird/day	135-175 gms
5th day	28gm/bird/day	175-215 gms
6th day	30gm/bird/day	215-255 gms
7th day	32gm/bird/day	255-295 gms
8th day	34gm/bird/day	295-335 gms
9th day	36gm/bird/day	335-385 gms
10th day	38gm/bird/day	385-425 gms
11th day	40gm/bird/day	425-465 gms
12th day	42gm/bird/day	465-505 gms
13th day	44gm/bird/day	505-545 gms
14th day	46gm/bird/day	545-585 gms
15th day	48gm/bird/day	585-625 gms
16th day	50gm/bird/day	625-665 gms
17th day	52gm/bird/day	665-705 gms
18th day	54gm/bird/day	705-745 gms
19th day	54gm/bird/day	745-785 gms
20th day	56gm/bird/day	785-825 gms
21st day	58gm/bird/day	825-865 gms
22nd day	60gm/bird/day	865-905 gms
23rd day	62gm/bird/day	905-945 gms
24th day	64gm/bird/day	945-985 gms
25th day	66gm/bird/day	985-1,025 gms
26th day	68gm/bird/day	1,025-1,045 gms

N.B.

I. Feed daily 2gms increase

II. Body weight gain daily 40-50gm/bird/daily increase

EFFECTIVE MICRO-ORGANISM LIQUID (E.M.) APPLICATION IN BROILER PRODUCTION:

E.M. Is a brown concentrated liquid produced from the cultivation of 80 strains of beneficial microorganisms collected from natural environment of India.



Advantages of E.M. Technology in Livestock Production:

- *Reduces cost inputs more efficiently.*
- *Improves gain in body weight.*
- *Clean shed, less flies, ticks and less disease incidence.*
- *Maintains better health condition of birds.*

E.M. Bokashi in feed on daily basis:

Age of bird (day)	E.M. Bokashi
01- 07	30 gm/ kg feed
08- 14	20 gm/ kg feed
15 days onwards	10 gm/ kg feed

E.M. Solution as additive in drinking water on daily basis:

Age of bird(day)	E.M. Solution
01- 14 days	1 ml / litre of water
15 onwards	0.5 ml / litre of water

Caution:

E.M. Solution should not be mixed with anti-biotic, chlorinated water / any disinfectants.

Prevention and Control of disease:

In poultry industry primarily emphasis is given more on prevention and control than curative measures.

A suggestive disease prevention & control programme follows:

- Start with disease free stock.
- Vaccinate chicks against Ranikhet & Marek's disease at Hatchery.
- Use coccidiostats to prevent coccidiosis.
- Keep feed free from aflatoxins.
- Do not allow visitors or outsiders and attendants inside the poultry house unless they wear disinfected boots and clean clothing.
- Cover floor with clean litter at least 3 inches deep.
- All-in-one system of rearing should be followed to ensure minimum disease problems.
- Foot-bath provision at the entrance of the farm is a must.
- Provision of adequate clean and fresh water should be available.

A) Viral-**1) Ranikhet / New Castle Disease****Symptoms:**

- i. Affects all the birds of the farm.
- ii. Difficulty in breathing.
- iii. Nasal discharge.
- iv. Anorexia.
- v. Greenish diarrhoea.
- vi. 90-100% mortality.

Prevention: *Early vaccination with F1 followed by R₂B vaccines*

2) Marek's Disease**Symptoms:**

- i. Affects all the birds.
- ii. Droopy wings, lameness, paralysis.
- iii. 60- 70% mortality.

Treatment :

No treatment, only early vaccination.

B) Bacterial Diseases-

1) Salmonellosis

Symptoms:

- i. Chalky white diarrhoea.
- ii. Pasted vent.
- iii. Depression.
and loss of weight.
- iv. Sudden death.
- v. Affects all age groups.

Treatment:

- i. Use effective antibiotic (contact nearest veterinary centre).
- ii. Recovered birds act as a source of disease and thus better to cull.

2) Colybacillosis

Symptoms:

- i) Affects all age groups.
- ii) Diarrhoea.
- iii) Dizziness.
- iv) Swelling of joints.
- v) Oedematous comb and wattle.
- vi) Mortality rate - 90%.

Treatment:

Antimicrobials (contact nearest veterinary centre).

C) Fungal Diseases-

1) Brooder pneumonia / aspergillosis

Symptoms:

- i) Affects chicks.
- ii) High mortality.
- iii) Respiratory problem.
- iv) Swollen eye and head.

Treatment:

Use antifungal (contact nearest veterinary centre).

D) Helminthic Diseases-

Symptoms:

- i) Affects mostly layer birds.
- ii) Inappetance.
- iii) Poor body growth.
- iv) Ruffled feather.
- v) Diarrhoea.

Treatment:

Use anthelmintic every two months (contact nearest veterinary centre)

E) Protozoan Diseases-

1) Coccidiosis

Symptoms:

- i) Bloody diarrhoea.
- ii) High mortality rate.

Treatment:

1) Proper management.

2) Use anticoccidiosis (contact nearest veterinary centre).

Vaccination schedule in Broilers:

Disease	Age
Marek's	1 st day (generally given in hatchery) 0.2ml s/c
Ranikhet	5 th day (f-strain)
Gumboro / IBD	7-9 th day
Gumboro / IBD	16 th 18 th day (Booster dose)
Ranikhet	30 th day (f-strain)

BIO-SECURITY MEASURES IN A BROILER FARM

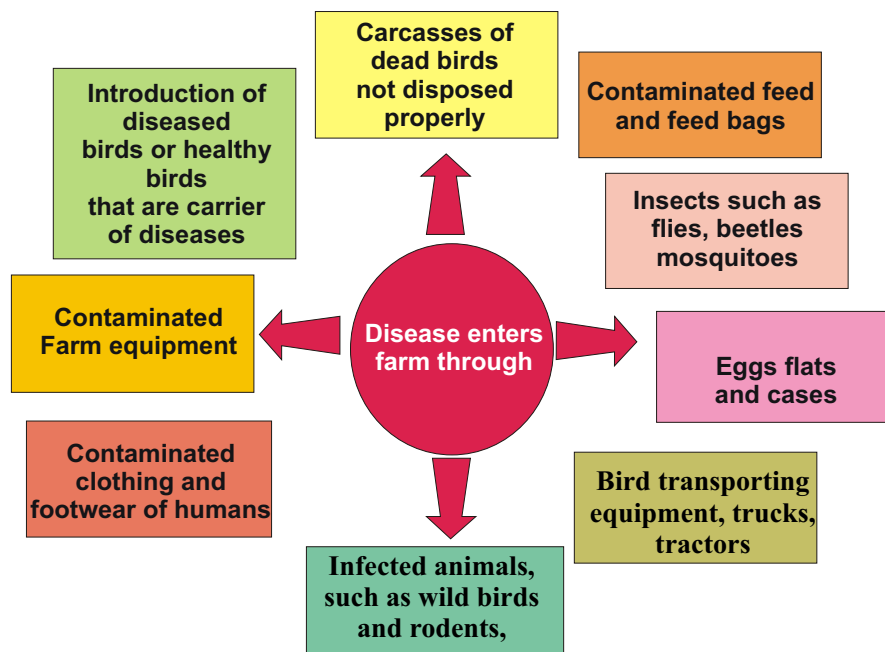
Bio-security is a practice designed to prevent the spread of disease onto your farm.

Bio-security has three major components:

1. Isolation.
2. Traffic Control.
3. Sanitation.

Bio-security Measures:

1. Fencing.
2. Keep visitors to a minimum.
3. Limit visitations to other poultry farms.
4. Keep all animals and wild birds out of poultry houses.
5. Practice sound rodent and pest control programs.
6. Inspect flocks daily and recognize disease symptoms.
7. Good ventilation and relatively dry litter.
8. Keep areas around houses and feed bins clean.
9. No exchange of feed and equipments .
10. Disinfection and sanitisation of poultry house & equipments.



Marketing of Broilers:

Marketing should be planned.

A successful project will depend on the good market and the price offered.

Scheme for establishment of 250 Vencobb broiler Unit

Particular	Rate	Estimated Cost (in Rs)
A. Capital Expenditure		
I. Cost of construction of one no. of Brooder shed cum grower shed made out of brick, wood with cemented floor size 250 sqft roof covered with GCI Sheet.(size 13'8x18')	Rs. 90.00/ sq.ft.	22,500.00
II. Cost of poultry equipments Such as feeder, water brooder for chicks & grower @ Rs.15/-	15.00/ bird	3,750.00
III. Cost of other expenditure on Power, Adm, and other unforeseen expenditure	2.50 /bird	625.00
IV. Cost of electrification 4 % of civil work of poultry shed.		900.00
TOTAL		27,775.00

Particular	Rate	Estimated Cost
B. Recurring Expenditure		
a. Cost of vencobb day old chicks 250 nos	37.00	9,250.00
b. Cost of broiler starter and finisher feed 3.5 kg/ bird (0-6 week age)= 857.5 kg (excluding 2 % mortality)	19/kg	16,292.50
Cost of Electricity, Medicines, Vaccines, Labour, Litter and other over head charges & Insurance	3 %	750.00
TOTAL		26,292.50

Particular	
PROJECT COST	
A. Capital Exp =	27775.00
B. (+)Rec. Exp. =	26292.50
=	54067.50
Term loan @ 75%	40,550.62
Income Mortality 2%= 05 nos	

Particular	Rate	AMOUNT (in Rs)
Revenue received from sale of 245 nos of Live Broiler each weighing 1 kg 800 gm = 441 kg	Rs. 95/ kg	41,895.00
Empty gunny bag = 11 nos	20.00	220.00
Revenue from sale manure from 245 live birds	Rs1.50/bird	367.50
		42,482.50
- Capital Expenditure A III & IV		(-) 1,525.00
		40,957.50
- Recurring Expenditure B		(-)26,292.50
Gross Profit/Cycle		14,665.00
Gross Profit/ Annum of 5 cycles		73,325.00
Depreciation on Poultry Shed 10%= 2,250.00 Poultry equipment 15% 562.50		(-) 2,812.50
NET PROFIT/annum		70,512.50
NET PROFIT PER BIRD		56.41/bird/cycle

- N.B
1. Marginal money is calculated as 25% for Sc & St categories
 2. Mortality= 2%
 3. Live weight= 1.8 kg
 4. Feed consumption 3.5 kg excluding wastage.

Scheme for establishment of 500 Vencobb broiler Unit.

Particular	Rate	Estimated Cost (in Rs)
A. Capital Expenditure		
I. Cost of construction of one no. of Brooder shed cum grower shed made out of brick, wood with cemented floor size 500 sqft = (20'x25')roof covered with GCI Sheet.	Rs.90.00/sq.ft.	45,000.00
II. Cost of poultry equipments Such as feeder, w ater brooder for chicks & grower @ Rs.15/-	15.00/bird	7,500.00
III. Cost of other expenditure on Power, Adm, and other unforeseen expenditure	2.50/bird	1,250.00
IV. Cost of electrification 4 % of civil work of poultry shed.	-	1,800.00
TOTAL		55,550.00

Particular	Rate	Estimated Cost
B. Recurring Expenditure		
a. Cost of vencobb day old chicks 500 nos	37.00	18,500.00
b. Cost of broiler starter and finisher feed 3.5 kg/ bird (0-6 week age)= 1715kg (excluding 2 % mortality)	19/kg	32,585.00
Cost of Electricity, Medicines, Vaccines, Labour, Litter and other over head charges & Insurance	3 %	1,500.00
TOTAL		52,585.00

Particular	
<u>PROJECT COST</u>	
A. Capital Exp =	55550.00
B. (+)Rec. Exp. =	52585.00
	= 108135.00
<u>Term loan @ 75%</u>	= 81,101.25
Income Mortality 2%= 10 nos	

Particular	Rate	AMOUNT
Revenue received from sale of 490 nos of Live Broiler each weighing 1 kg 800 gm = 882 kg	Rs. 95/ kg	83,790.00
Empty gunny bag = 22 nos	20.00	440.00
Revenue from sale manure from 490 live birds	1.50/ bird	735.00
		84,965.00
- Capital Expenditure A III & IV		(-) 3,050.00
		81,915.00
Gross Profit (81,915 – Recurring cost)		29,330.00
Net Profit/ Annum of 5 cycles		1,46,650.00
Depreciation on Poultry Shed 10% = 4,500.00 Poultry equipment 15% = 1,125.00		(-) 5,625.00
NET PROFIT		1,41,025.00
NET PROFIT PER BIRD		56.41/bird/cycle

- N.B
1. Marginal money is calculated as 25% for Sc& St categories
 2. Mortality= 2%
 3. Live weight= 1.8 kg
 4. Feed consumption 3.5 kg excluding wastage.

Scheme for establishment of 1000 Vencobb broiler Unit.

Particular	Rate	Estimated Cost (in Rs)
A. Capital Expenditure		
I. Cost of construction of one no. of Brooder shed cum grower shed made out of brick, wood with cemented floor size 1000 sqft = roof covered with GCI Sheet.	Rs.90.00/bird	90,000.00
II. Cost of poultry equipments Such as feeder, water brooder for chicks & grower and miscellaneous items	15.00/bird	15,000.00
III. Cost of other expenditure on Power, Adm, and other unforeseen expenditure	2.50/bird	2,500.00
IV. Cost of electrification 4 % of civil work of poultry shed.	-	3,596.40
TOTAL		1,11,096.40

Particular	Rate	Estimated Cost
B. <u>Recurring Expenditure</u>		
a. Cost of vencobb day old chicks 1000 nos	37.00	37000.00
b. Cost of broiler starter and finisher feed 3.5 kg/ bird (0-6 week age)= 3430 kg (excluding 2 % mortality)	19/kg	65170.00
Cost of Electricity, Medicines, Vaccines, Labour, Litter and other over head charges & Insurance	3 %	3000.00
TOTAL		1,05,170.00

Particular	
<u>PROJECT COST</u>	
A. Capital Exp	1,11,096.00
B. (+)Rec. Exp.	1,05,170.00
	2,62,266.40
Term loan @ 75%	1,62,199.30
Income Mortality 2%= 20 nos	

Particular	Rate	AMOUNT
Revenue received from sale proceed of 980 nos of Live Broiler each weighing 1 kg 800 gm = 1764 kg	Rs. 95/ kg	1,67,580.00
Empty gunny bag = 49 nos	20.00	980.00
Revenue from sale manure from 980 live birds	1.50 /bird	1,470.00
		1,70,030.00
- Capital Expenditure A III & IV		(-) 6,096.40
		1,63,933.60
- Recurring Expenditure B		105170.00
Gross Profit (Revenue-recurring)		58,763.60
Net Profit/ Annum of 5 cycles		293818.00
Depreciation on		
Poultry Shed 10% = 9,000.00		
Poultry equipment 15% = 2,250.00		11,250.00
NET PROFIT		2,82,568.00
NET PROFIT PER BIRD		56.51/bird/cycle

- N.B
1. Marginal money is calculated as 25% for Sc& St categories
 2. Mortality= 2%
 3. Live weight= 1.8 kg
 4. Feed consumption 3.5 kg excluding wastage.

**COMPARITIVE INCOME STATEMENT BETWEEN
A GOVERNMENT SERVANT AND A POULTRY FARMER**

Sl. No	Employed Lowest Gazetted Officer Income per Annum	Self Employed Farmer Income per Annum
1.	Rs, 3,67,608/-	<u>1000 birds</u> <u>2000 birds</u> Rs, 2,82,568/- Rs 5,65,136/-
2.	Age limit on for 58 yrs.	No Age limit.
3.	Single Employment and Time constraint (10 Am- 4 Pm).	Other members of the family can also be engaged/provide employment to others.
4.	Sikkim Government Service Conduct rule is applicable.	Conduct rule not applicable.
5.	Earning Limited.	Earning not limited.
6.	No other activities like entrepreneurship for income generation.	Can pick up other activities simultaneously for added income.



**NUTRITIOUS FOOD
FOR
BETTER HEALTH**

