

## FEEDING MANAGEMENT

In poultry, feed accounts for 65-70% of total cost of production. Therefore, feeding of adequate amount of balanced and wholesome feed is important for optimum production. Feed should be formulated to contain optimum nutrient concentration obtainable at reasonable cost for maximum growth, production and efficiency of feed utilization. For the preparation of balanced and economic feed detailed knowledge on the nutrient contents and availability in the feed ingredients used to formulate the diet is a basic requirement. The objective of feed manufacturing is to produce feed that should meet the intended specifications both in nutritional composition, palatability, and desired medication level and should be free of contaminants.

### Making of feed with locally available feed ingredients:

| Ingredients  | Quantity |
|--|----------|
| Maize/ Bajra/ Jowar/ Broken Rice etc.                                | 50 parts |
| Rice bran/ wheat bran / De-oiled rice bran etc.                      | 20 parts |
| Soybean meal/ Groundnut meal/ Sunflower meal/ Till cake/ Linsed cake | 28 parts |
| Vitamin and minerals   | 2 parts  |

## VACCINATION

The very purpose of the vaccination is to protect flocks against infective agents. Vaccination can be considered a strategy of controlled exposure to an organism for the purpose of evoking an immune response. Proven vaccines produced under rigid quality control, from a reputed manufacturer should be used for vaccination. The vaccination should be done at a time when the host is immunologically competent. A rational vaccination program maximizes the potential of the immune response. The antigens must be presented in such a way as to elicit the best response possible. It is important to remember that a good nutritional state and absence of stress are necessary for an optimal immune response.

### Vaccination schedule for rural poultry

| Age                   | Vaccine                   | Dose   | Route               |
|-----------------------|---------------------------|--------|---------------------|
| 1 <sup>st</sup> day   | Marek's disease           | 0.2 ml | Subcutaneous (S/C)  |
| 7 <sup>th</sup> day   | Newcastle disease         | 1 drop | Ocular or nasal     |
| 14 <sup>th</sup> day  | Infectious bursal disease | 1 drop | Ocular or oral      |
| 24 <sup>th</sup> day  | Infectious Bursal disease | 1 drop | Ocular or oral      |
| 28 <sup>th</sup> day  | Newcastle disease         | 1 drop | Ocular or nasal     |
| 6 <sup>th</sup> week  | Fowl pox                  | 0.2 ml | Intramuscular (I/M) |
| 8 <sup>th</sup> week  | Newcastle disease         | 0.5ml  | I/M                 |
| 18-20 weeks           | ND+IBD killed             | 0.5ml  | I/M or S/C          |
| 40 <sup>th</sup> week | ND+IBD killed             | 0.5ml  | I/M or S/C          |

### Cost Economics : (20 birds)

| Particulars   | Total (Rs.) |
|---|-------------|
| <b>Expenditure</b>  |             |
| Chick cost @ Rs.35/ birds (4 weeks)                                       | 700         |
| * Rearing cost of birds from 4 to 12 weeks of age @ Rs. 30 /bird          | 600         |
| * Rearing cost of female birds from 12 to 72 weeks of age @ Rs. 150 /bird | 1350        |
| <b>Total</b>  | <b>2650</b> |
| <b>Income</b>   |             |
| Sale of males at 12 weeks (1.5 kg body weight) @ Rs. 150/kg               | 2025        |
| Sale of eggs (120eggs/bird) @ Rs. 5 per egg                               | 5400        |
| Sale of culled birds (2.5 kg body weight) @ Rs. 75/kg                     | 1688        |
| <b>Total</b>  | <b>9133</b> |
| <b>Profit (Income – expenditure)</b>                                      | <b>6463</b> |

# Family Poultry Production

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## INTRODUCTION

The rural people are practicing backyard poultry keeping since time immemorial in India and other Asian and African countries. Traditionally women are involved in backyard poultry keeping. Poultry farming is an essential activity of the typical rural/tribal household system in India, touching their social, cultural and economic lives. Small and landless farmers as well as those belonging to weaker sections, including tribal and scheduled castes people traditionally keep local breeds for their subsistence. These birds forage and scavenge for their food in the back yards of human dwellings and provide eggs and meat at insignificant cost. They provide rich nutritional food and regular source of income for the rural / tribal poor. Generally desi birds are used for rearing in backyards in rural and tribal areas of the country. Though generally considered secondary to other agricultural activities by smallholder farmers, poultry production makes an important contribution to supplying local populations with additional income and high quality protein. Though, the native chicken reared in the backyard contribute about 20% of the total egg production in India, their productivity is far below (55-65 eggs/year) than those reared under intensive farm conditions (330 eggs/year). The chicken varieties available are not suitable for this purpose as the production potential is very low. Therefore, the need arises to develop chicken varieties which can produce significantly better than native chickens and survive and sustain under adverse climatic conditions utilizing minimum inputs in terms of nutrition, health care and management. While going for rural poultry production, it is essential to understand the local production system, their limitations and opportunities, the circumstances under which such traditional system came into existence and how they can be improved further.

## WHAT IS FAMILY POULTRY PRODUCTION

Family poultry is small scale poultry keeping by households using family labour and wherever possible locally available feed resources. Family poultry farming in rural areas has been recognized globally to alleviate poverty, hunger and malnutrition in developing countries.

## ADVANTAGES

- ❖ It is easy to manage and handle.
- ❖ It needs minimal use of land, labor and capital. There is higher demand and higher price for eggs and birds of native fowl.
- ❖ It requires little intervention in rearing, the major intervention is in the areas of feed and water supplementation, over night housing and to a much lesser degree in health management.
- ❖ It can easily integrate with other agriculture, aquaculture and livestock farming.
- ❖ It can contribute to the village economy.
- ❖ The most important is women in rural areas can operate family poultry with maximum involvement.
- ❖ The egg and meat are highly nutritious and the biological value of egg is very high.
- ❖ So it helps to fight poverty and malnutrition and provide scope for high employment.

## CHICKEN VARIETIES SUITABLE FOR FAMILY POULTRY PRODUCTION

Realizing the importance of rural poultry farming in India, research efforts were initiated in the past at ICAR Institutes and SAUs for developing suitable chicken varieties for rural farming. These chicken varieties developed have multicoloured plumage and resemble the native chicken in their feather pattern, produce more meat and eggs than the natives. Some of the chicken varieties developed for rural poultry farming are Giriraja, Girirani, Swarnadhara, Vanaraja, Gramapriya, Krishibro, Srinidhi, CARI Debendra, CARIBRO Dhanraja, CARI Nirbheek, CARI Shyama, Upcari, Hitcari, Krishna J, Narmadanidhi, Nandanam IV, Gramalakshmi, Kalinga Brown, Rajasree, Nicrorock, etc.

### Vanaraja- A Dual purpose bird for backyard poultry

| Parameters                                    | Performance |
|---|-------------|
| Day old chick weight (g)                      | 42          |
| Six week body weight (g)                      | 640         |
| Male body weight at 12 weeks (kg)             | 1.8-2.0     |
| Age at sexual maturity (days)                 | 175-180     |
| Annual egg production in backyards (72 weeks) | 110-120     |
| Average egg weight at 40 weeks (g)            | 54-56       |
| Colour of egg                                 | Brown       |
| Survivability up to 6 weeks (%)               | 98          |

## POULTRY HOUSE

If the birds are reared under free range or semi intensive system of rearing, then birds are to be provided place for night shelter. The night shelter house can be made of bamboo, wood earth with minimum expenditure. There should be provision of clean drinking waters inside the house during night time. When birds are reared under intensive system of production, construction of poultry house is essential. The site for construction of poultry houses should be selected preferably in elevated areas with good drainage facility. Availability of the basic infrastructure facilities such as water, electricity and access to roads must be taken into account. The orientation of the houses should be in east-west direction to avoid direct sun light, draft and rainfall into the building.

## BROODING MANAGEMENT

The baby chicks cannot maintain their body temperature due to lack of well developed body feathers to conserve body heat, therefore, heat is provided to maintain their body temperature. The management and care of baby chicks till 4 to 6 weeks of age is known as brooding. This is the most critical period in the rearing of chicken as proper brooding management is essential in achieving desired growth and preventing mortality of chicks.

There are two types of brooding such as natural and artificial.

1. Natural Brooding: In the natural brooding, the hen, which incubates and hatches out chicks, broods the chick. A broody hen can brood around 10-12 chicks comfortably. The broody hen takes out newly hatched chicks in daytime for foraging of food. During night time they are provided brooding nest and protection from predators. This system is commonly practiced in backyard poultry farming.
2. Artificial Brooding: When the chicks are reared separately from their mothers, artificial source of heat is used to provide heat to maintain their body temperature. The temperature at brooder during first week of brooding period is 35°C, which is subsequently reduced by 2.8°C per week during each successive week till it reaches 21°C. After the sixth week brooders are not necessary unless and until the environmental temperature is too low. The source of artificial heat used may be electricity, wood, gas, sawdust, kerosene, and infrared light depending on type of brooder used.

## PREPARATION OF BROODER HOUSE

- ❖ The brooder house should be thoroughly cleaned and disinfected much before the placement of chicks.
- ❖ All movable equipments like brooders, waterers, feeders, etc. should be removed from the shed and should also be cleaned thoroughly in water and disinfected well.
- ❖ The interior and exterior of the house should be cleaned using a pressure sprayer with hot water and again with disinfectant solution and should be kept vacant for a minimum period of 2 to 4 weeks.
- ❖ The house must be fumigated overnight, 24 hours before housing chicks and should be ventilated it at least for 3-4 hours to remove traces of poisonous gas.
- ❖ One day before arrival of chicks, set the heating system at 32 - 35°C at chick level for floor brooding. Spread adequate bedding material such as dried sawdust, rice husk or wood shavings on floor with 5-10 cm thickness. Check the water system and adjust to proper height for chicks. The temperature inside the brooder house should be approximately 10°C less than the brooder temperature.
- ❖ On the day of arrival of chicks, arrange waterers, feeders, etc. in wheel-spoke pattern around brooder for easy accessibility of feeder and waterers by baby chicks. Fill the waters with clean water and on placing chicks, trigger water cups to encourage drinking. Check the brooder temperature. Feed or maize grit has to be sprinkled on papers for feeding of chicks in initial stages and subsequently provide the feed (mash/crumble) in the feeder. Provide adequate light continuously during the first two days.
- ❖ Supplement electrolytes/antibiotics in drinking water to reduce transportation or environmental stress and also to reduce early chick mortality.
- ❖ During the initial 7 days, news paper may be spread over the litter material to prevent accidental intake of litter material by the chicks. Remove the top layer of paper daily to clean, turn it upside down after 3 or 4 days and remove it altogether after 7 days.

About 50 – 66 cm<sup>2</sup> space per chick under brooder is recommended. A hover of 1.8 m diameter can hold 500 chicks.