# Parent stock production

## Controlled feeding

### *Essence of the program*

- ❖ Optimum amount of energy and protein for maintenance and performance (growing and production) should be provided to prevent them growing too fat.
- ❖ Body weight should be used as guide to determine the amount of feed to be provided during the rearing period (up to 16 weeks of age)

### *General requirements for practicing controlled feeding*

- ± The feeding system should distribute the feed over the whole house area evenly, rapidly and continuously
- ± Provide sufficient feeding space per bird
- ± Feed quantity should be determined exactly and allocation should be made accordingly
- ± A body weight chart should be consulted
- ± Birds should be weighted regularly
- ± Record the average on a graph and compare with the standard
- ± Consider flock uniformity as being the criteria of good management during growing period

### *Weighing the feed*

Weigh the required feed quantity daily. Estimation of volume of feed is not correct.

### *Flock Uniformity*

The percentage of birds having a body weight between 10% above or below the average weight is called the flock uniformity. A well-restricted flock with 75% of the birds in mentioned can be considered as a uniform one.

Uniform flocks can be managed more easily and will normally have better peak production and persistency.

Flocks with uniformity lower than 70% are lacking uniformity

Reasons for lack of uniformity are usually poor management factors such as:

- ✓ too low temperature during the first days
- ✓ improper debeaking
- ✓ mixing of birds of different ages
- ✓ inadequate feeding system
- ✓ incorrect method of feed restriction
- ✓ flock not equally divided over the pens
- ✓ feeding low quality feed
- ✓ stress conditions and disease

A flock lacking uniformity may be improved by

- separating large, medium and small birds and feeding them on the basis of body weight
- indentify other cause and correct it accordingly

**Methods of controlled feeding**

- Most practiced method is limiting the quantity of feed to be eaten daily
- Start controlling feed at the end of 7$^{th}$ week of age
- Give all required feed, if possible, in one feeding per day.
- If the average body weight of the females are same or very close to the standard weight schedule, feed birds according to the programme
- Increase the amount of feed gradually when the average body weight of the female is too low
- If the females are too heavy, keep the quantity of feed constant till the target weight is obtained
- Stop controlled feeding at 17 weeks of age
- Feed ad lib until 30 weeks of age and start controlling the feed again.

## Management practices involve in parent stocks farms

### Introduction

Parent stocks have a long history of systemic selection for a combination of efficient chick production and profitable production of quality egg. But egg quality and other performance at the parent and commercial level desponds on a combination of genetic potential and non-genetic factors such as health, nutrition, light, temperature, litter, water, air quality, technical environment. So, for optimal production results it is essential to make full use of providing good housing conditions and systematic management in order to help the birds express their genetic potential and ultimately higher profitability of the farms.

### Definition of parent stock

The synthetic lines obtained from the grandparent stocks as male line and female line to have a hat erotic effect on descending generation is called parent stock. Parent stocks are able to transmit superior genes to their descending generation for height egg production of the female.

### *Key points of management practices involve in parent stock farms*

### 1. Bio security

It is necessary to prevent the introduction of disease organisms into the flock by any means.

***a) Farm location or construction***

- ✓ It is best to build up the farm in an isolated area, at least 2 km distance from the nearest poultry farm
- ✓ Fence the perimeter of the farm to prevent unwanted visitors
- ✓ The design and construction of the houses should be in a manner that does not provide openings for wild birds and animals to enter the buildings

***b) Preventing disease transmitted by humans***

- ✓ Minimize the number of visitors to the poultry farm
- ✓ If supervisory personnel must visit, they should make an effort to visit the youngest flock first
- ✓ Always visits flocks with disease problems last
- ✓ All people entering the farm should follow a bio-security producer. All workers and visitors should shower and use clean farm clothes

***c) Preventing disease transmitted by animals***

- ✓ Whenever possible, place the farm on **"all in all out"** placement cycle.
- ✓ A minimum downtime of 2 weeks between flick is recommended
- ✓ Should provide an entry barrier to regents and wild animals
- ✓ Keep wild birds out of all buildings
- ✓ Maintain an effective rodent control program

**2. Preparing the poultry houses for chickens**

Provide a clean, comfortable environment for poultry and criminate any pathogenic organisms form previous flicks and or outside contamination preparation of houses is essential.

a) ***Clean out and disinfections procedure***

- ❖ Remove
  - ➢ Any live or dead bird
  - ➢ All remaining feeds and supplies
  - ➢ All equipment
  - ➢ Litter and manure
  - ➢ Rodenticides
- ❖ Wash building and equipment with clean water and detergent
- ❖ Disinfect building and equipment
- ❖ Spread clean, dry litter materials
- ❖ Install the equipment to receive the chicks

***b) Common floor treatment***

Floor can be treated with boric acid, aluminum silicate, salt, sulfur powder, time as per recommendations

***c) Water line cleaning***

**3. Housing of chicks**

a) ***Before arrival of chicks***

- ➢ Before bringing the chicks check that everything is in good working order
- ➢ Warm up the house in good time
- ➢ Distribute feed and water

b) ***On arrival of chicks***

- ➢ Unload all chick boxes and distribute them in the house
- ➢ Fed the checks 5% glucose solution and vitamin-c
- ➢ Quickly place the chicks near feeders and drinkers
- ➢ After placing the chicks, again check the equipment and temperature

**4. Brooding**

Brooding is necessary to provide proper heat, ventilation and access to feed and water for the chicks so as to optimize desired growth and development.

- Ideal brooding contained.

  -Al one day of age, chicks require a brooder temperature of 32 to $35^0$ C and a house temperature of 26 to $27^0$ C.

  -the brooder temperature can be reduced approximately $2^0$ C every four days.

5. **Drinker and water management**

It is to supply an adequate amount of portable water for chicken

a) ***Water quality***

- ❖ Use a reliable water sanitizer such as chlorine or iodine
- ❖ Open drinking system
- ❖ Test the chlorine level of the drinker
- ❖ Test the water monthly to ensure acceptable coli form level.

b) ***Drinker management***

- ❖ Open drinking system
- ❖ Gradually move the chick drinker towards the automatic drinkers
- ❖ Until seven days age, the top lip of the drinker should be set to the height of the average birds back. After 7 days of age, the drinker should be gradually raised.
- ❖ The proper water depth is 1.9 cm.
- ❖ Darker should be washed daily.
- ❖ Nipple drinking system.
- ❖ Be sure the nipple drinker lines and litter are level
- ❖ Just prior to placing the chicks on the nipple drinking system, "Trigger" all of the nipples
- ❖ Adjust the height of the water lines so the lines are at the chicks eye level for first two days

**6. Break Trimming**

- ❖ Trim birds beaks at 8-10 days of age both sexes and provide 24 hours of supplemental vitamin K, prior to beak trimming.
- ❖ Second beak trimming is done only for female at 10-12 weeks of age.
- ❖ Allow only experienced person to do the work
- ❖ Work slowly and carefully

**7. Vaccination**

To develop uniform disease resistance in parents and produce high levels of material antibodies that can be passed on to the chicks by the eggs.

It has several methods-

- ❖ Water vaccination
- ❖ Spray vaccination
- ❖ Intra ocular vaccination
- ❖ Intranasal vaccination
- ❖ Subcutaneous injection system
- ❖ Intra muscular injection
- ❖ Wing web punching
- ❖ Vaccination through feed.

## 8. The growing period Management

To manage environment constitutions and nutrient program to develop the most productive male and female breeders.

Density:

| Climate | Female (birds/$m^2$) | Male (birds/$m^2$) |
|---|---|---|
| Temperate | 6.2 | 3.0 |
| Hot | 4.8 | 2.75 |

Feedings:

a) Controlled feeding

- ❖ Most practical method is limiting the quality for feed to be eaten daily.
- ❖ Start controlling feed at the end of 7th weeks of age.
- ❖ Stop controlled feeding at 17th weeks of age.
- ❖ Feed ad labium until 30 weeks and start controlling the feed again.

b) Flock uniformity

The percentage of birds having a body weight between 10% above or below the average weight is called the flock uniformity.

## 9. Ventilation

To provide the best air quality to the chicken while maintaining comfortable temperature, humidity in the poultry house.

- ± Natural ventilation
- ± Tunnel Ventilation

## 10. Lighting

To control intensity and duration of light to provide to the birds in order to produce sexual maturation at the desired time and sustain production.

Lighting program to initiate the onset of production

| Age | Environmental con. House Light hour/day | Open-sided house Light hours/day |
|---|---|---|
| 1-3 days | 23 | 24 |
| 3 days- 12 weeks | Natural day length | Natural day length |
| 20 weeks | - | 14 |
| 21 weeks | - | 15 |
| 22 weeks | 14 | - |
| 23 weeks | - | 16 |
| 24 weeks | 15 | - |
| 25 weeks | 16 | 16.5 |
| 26 weeks | 16.5 | - |

**11.Managing females during production**

To obtain the maximum numbers and size of hatching eggs through the entire production period.

**a)** ***Weighing birds***

- ❖ Pullets and males should be weighed weekly until 40 weeks an d2 weeks thereafter through the end of the production period.
- ❖ The supervisor should examine each birds carefully for body condition and sexual activity.

***b) Feeding***

- ❖ For egg production
- ❖ Hot weather feeding
  - ✓ 5% fat supplement
  - ✓ Increase energy concentration, protein and amino acid concentration
  - ✓ Provide cool water
- ❖ Cold water feeding

***c) Managing a very high producing flock***

***d) Feed consumption time***

| Age | Expected consumption time |
|---|---|
| 4-20 weeks | 1-2 hrs |
| 20-28 weeks | 1-2 hrs |
| 28-32 weeks | 2-3 hrs |
| After 32 weeks | 2-5 hrs |

**12. Monitoring egg mass**

To obtain standard hatching eggs size throughout the life of flock.

- ❖ Egg weighing
- ❖ Target fertility and hatchability

**13. Feed Reduction following peak Production**

**14.Floor Management**

- ✓ Stocking density-6-8 birds/$m^2$
- ✓ Litter
- ✓ Nest training and nest ration-5-6 hens/nest

**15.Hatching egg care**

- ❖ Egg collection -3 times daily
- ❖ Egg storage-optimum temperature: 12 to $20^0$ C and humidity 75 to 85%
- ❖ Handling of hatching egg
- ❖ Hatching of hatching egg disinfection
  - ✓ Fumigation
  - ✓ Disinfection in the hatchery

**16. Feeding the male brooder**

**17. Male female ratio**

**18. Dead bird disposal**

**19. Record keeping**

- ❖ Breed of male and female
- ❖ Date received
- ❖ Vaccination completed at the hatchery
- ❖ Vaccination completed at the farm
- ❖ Feed, water consumption
- ❖ Egg production
- ❖ Morality, body weight, egg weight
- ❖ Fertility percentage
- ❖ Hatchability percentage
- ❖ Production cost

**Conclusion**

Management is the key factors which can lead the performance of any stock. If we can manage the parent stock properly and accurately, they can produce excellent performance which is desirable for the profitability of the parent stock farms.

**References**


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