**CHAPTER- I**

**INTRODUCTION**

The poultry industry in Bangladesh is very diverse. It comprises Grand parent stock, parent stock, broiler chicken, layer chicken, native chicken, and ducks. Among these, parent stock sector is most significant. because it is connected to the production of broiler & layer chicken & as well as these broiler parent stock are used as a significant source of protein & nutrition when culled. The hatching eggs received from the broiler parent stock when put into the incubator hatch out into the commercial broiler chicks which when reared upto the requisite weight are sold into the market. There are 227 hatcheries in the country & total number of breeder parent stock was 38,67,000 .( Farm poultry & livestock survey 2007-2008,November 2010, BD Bureau of statistics).

In our country the poultry meat products become popular, because these are relatively cheap, convenient and nutritious. According to DLS (2007), meat requirement is 120gm/day/head and 6.26 million metric ton/year. But our achievement is 20gm/day/head and 1.04 million metric ton/year. Poultry meats contributes approximately 37% of the total animal protein supplied in the country (Rahman et. al.,1998) . At present chicken contributes 51% of total meat production of the country through the share of broiler is not separated. Per capita annual consumption of meat in the country is 5.9 kg which is only 7.38% of the universal standard (MoFL, 2006).

Various number of broiler breeder parent stocks having excellent genetic potential & best performance have been developed by various breeder companies. 80% of the broilers breeders are produced by four foreign breeder companies: Aviagen, Cobb-Vantress, Hubbard Farms, Hybro. Among these Cobb 500 is an English strain which shows an excellent production reproduction performance in standard condition. It has a worldwide reputation for the lowest cost of producing chicken meat. Cobb geneticists have developed this breed by the research of more than 30 years progress using a combination of both traditional & pedigree selection & new technology. They have developed a very high breeder performance of cobb 500.( Cobb breeder management guide)

For such high breeder performance **Progressive hatcheries and poultry farm** choose Cobb- 500 as a broiler parent stock for rearing. Therefore, the present study was undertaken at **Progressive hatcheries and poultry farm,** boalkhali**,** Chittagong with the following objectives:

* To learn the management of broiler parent stocks.
* To compare the achieved performance with the standard guideline.
* To know the relation among body weight, feed consumption ,FCR, and egg production performance.
* To observe the production performance of broiler parent stock (Cobb-500)

**CHAPTER-II**

**REVIEW OF LITERATURE**

Colin C. Whitehead (2010)’s recent research has demonstrated the importance of the early nutritional status of the hatched chick in enhancing performance. It is therefore vital that , in formulating diets for the parent birds, attention is paid not only to maximizing egg output and hatchability but also to ensuring that the eggs produced contain adequate amounts of the nutrients vital for supporting the early development of hatching chick.

Dr Tom Smith (2009) suggested that breeder bird must not have a deformed beak, slipped wing, blindness in one or both eyes or any defect that may interfere with normal eating, drinking, and maintaining social stature in the flock. Male birds must be aggressive and have straight, sound legs and toes. Females should reflect good egg laying traits and good health and vigor.

R.Keith Bramwell *et al* (2008) reported that obtaining accurate body weights is a critical part of the process of rearing replacement broiler breeder pullets and managing breeder hens and males. From the first few weeks of age in the pullet house, all feed allocations are determined by the bird’s weekly weight gains. Obtaining accurate body weights is very important to maintaining uniformity, body conformation and the overall development of pullets and young cockerels. Research has shown that accurately and uniformly controlling body weight of both replacement breeders and breeders in the hen house will result in improved performance parameters.

Ahmed (2008) reported that sudden excessive hear or cold lowered the egg production Due to quick temperature change in the reproductive tract egg formed very slowly. Normally it takes about 23 hours to form an egg in the reproductive tract. Remedy of the problem is temperature controlled by thermometer and application of it-C in hot season.

Banerjee (2007) stated that the production cycle may be conveniently divided into three stages or phases I (22nd week to 42nd week)- egg production 0-85% increase body weight to mature body weight. eggs of gradually increasing size, phase II (43rd week to 62nd week) egg production declines up to 65% and phase III (63rd week to 72nd week)- egg production less than 65%.

Devegowda (2004) reported that hatchability problems in females over 50 weeks of age are often associated with poor shell quality

Kennry and Kemp(2005) stated the physiological status of the chick of hatching is greatly influenced their agents. Sometimes they sold a portion of their products directly to the commercial poultry farm owners.

Meijerhof (2004) reported that a short of average loss of embryos during incubation is supposed to be approximately 8-10% resulting inan average hatch of fertile eggs of 90-92% in both the first and last week of incubation we lose on average 4-5% of embryos where inthe mid-period the losses are normally less than 1% Hatchability goes down when egg storage is prolonged, especially for older flocks. The embryo temperature must be constantly between 100-100.5F with a maximum of 101F. The temperature in the egg is the result of the heat production of the embryo and the heat transfer between the egg and air.

Onagbesan et. al. (2005) reported that egg turning is required during incubation at least until day 12 or 18 but it should not be stopped at day 15 of incubation.

Raha (2007) stated that it is interesting to note that broiler farming is solely in the private sector particularly in the hands of small scale farmers.

Singh (2004) stated that the hatchery operators should be able to distinguish between the poor hatchability due to the true infertility and those resulting from embryonic mortality. The latter category represents the hatchability problems. There are four stages during the embryonic growth when the mortality is more than average. Stage-1 (before the egg is laid), stage-2 (2nd -4th day), stage-3(7th -18th day) and stage-4 (19th -21st day).

**CHAPTER-III**

**MATERIALS AND METHODS**

**3.1The study area:**

The study was performed at a renowned poultry farm of Bangladesh named Progressive hatcheries and Poultry farm, Boalkhali, Chittagong where popular broiler parent stock Cobb 500 was reared in Environmentally Controlled House.

**3.2 Study Period:**

The study was conducted for twenty(20) days of time from 09th August to 30th 2016 during my internship placement.

**3.3 Study Population:**

Progressive hatcheries and Poultry farm has seven flock of about 32,000 birds of different age group in seven sheds. But for the facilities of my study, I had selected two flocks containing 7800 birds.

**3.4 Data collection and analysis:**

Data were collected from Progressive hatcheries and Poultry farm, Boalkhali, Chittagong, Bangladesh. Egg production body weight gain along with other related data like housing, lighting , feeding ,of the study batch were recorded. The data is collected from record book of Progressive hatcheries and Poultry farm.

**3.5 Parameters:**

The parameters of poultry are given below.

* Age of the birds
* Mortality percentage
* Egg production
* Hatching eggs
* Feed percentage

**CHAPTER IV**

**RESULTS AND DISCUSSION**

During my study period I observed the following differences between the existing management of broiler parent stock Cobb 500 at Progressive hatcheries and Poultry farm and the standard/ recommended management of broiler parent stock Cobb 500 in the Cobb 500 Breeder Management Guide 2009.

**4.1Preparation of the poultry house:** (Before arrival of a new flock)

After removing all equipments, litters used for previous flock the shed was cleaned properly with three types of cleaning practice for making the room pathogen free.

**i) Dry cleaning**

Dry cleaning was done by using different types of sweeping instrument like brush, coconut leaf made sweeping instrument etc. to remove the dirt as high as possible.

**ii)Water Cleaning**

Then the house was watered with detergent. After that the room was washed thoroughly with clean water. The liming was done, liming means the whole surface was covered with a layer of lime solution. The lime was used as a disinfectant. Then the room was left for drying for 15 days. During this period routine spray was done with different disinfectant like spraying with formalin (10 litter water +2/3 litter formalin), Disenkape® (Glytaraldehyde 15% + Chlorobenzyl ammonium chloride-10%) at a concentration of 7 ml / litre of water at the rate of 300 ml solution /m2.

**iii)Fumigation**

After 15 days of drying period, fumigation was done with formalin and potassium permanagement at the rate PPM: Formalin =1:2 ratios. Then the room was closed for 24 hours. After that it was opened. Before arrival of the chicks, the room was preheated for 2-3 days.

**4.2 Brooder House Management for chick both male and female**

**4.2.1Preparation of Brooder House:**

In my study area cage brooding was performed. The hover was set approximately 3 feet above from the chick level..

**4.2.2Brooding temperature:**

In Progressive hatcheries and Poultry farm follows the recommended brooding temperature for maintain their brooding management.

**Table 4.1** Recommended and actual (Maintained) brooding temperature existing management system of Progressive hatcheries and Poultry farm.

|  |  |  |
| --- | --- | --- |
| **Day** | **Temp. for brooding (ºC)** | |
| **Recommended** | **Maintain** |
| 1 | 35-33 | 35-33 |
| 2 | 33-32 | 33-32 |
| 3-7 | 32-29 | 32-29 |
| 7-14 | 29-26 | 29-26 |
| 14-21 | 26-23 | 26-23 |
| 21-28 | 23-21 | 23-21 |
| 28-35 | 21-20 | 21-20 |
| 35 and later | 20 | 20 |

**4.2.3Air Management /Ventilation:**

Actually temperature and ventilation was maintained according to the condition of the birds

**4.2.4 Bedding Material:**

During cage brooding paper was used as a bedding material. After transfer into grower house litter material was used rice husk for bedding material.

**4.2.5 Vaccination programme:**

Routine vaccination was done in Progressive hatcheries and Poultry farm according to the management guide.

**Table 4.2: V**accination, medication & other activities forbroiler breeder (**0-23 wks**)

|  |  |  |  |
| --- | --- | --- | --- |
| **Age** | **Name of vaccine/medicine** | **Route** | **Remarks** |
| Day-1 | Ma5+Clone 30 | Eye drop[ED] | 17-6-2012 |
| Day-4 | Immucox | Drinking Water[DW] | 10-6-2012 |
| Day-5 | Reo live[Reo-1133] | Asper recommendation | 11-6-2012 |
| Day 6-8 | •Vittamin K  •Enrofloxacin | **”** |  |
| Day 7-8 | * Debeaking |  |  |
| Day 8-10 | Pulmotil AC | Drinking Water[DW] | 8mL⁄ 1000Birds **⁄** Day |
| Day 11 | •Gumboro D 78  •G+NDKilled[1⁄2]Dose | Eye drop  As per recommendation | 16-6-2012  1117-6-2012 |
| Day 14-15 | •Pulmotil AC | •Drinking Water | 20ml **⁄**1000birds**⁄** day |
| Day 21 | • Gumboro D78 | •Eyedrop[ED] | 27-6-2012 |
| Day 28 | Ma5+Clone 30 | •Eye Drop | 4-7-2012 |
| Week-5(Day 3&4) | Pox Vaccine | As per recommendation | 8-7-2012 |
| Week-6(Day 1&2) | Pulmotil AC | Drinking Water[DW] | 50ml⁄1000birds⁄ day |
| Week-6(Day 3&4) | Coryza Vaccine | As per recommendation |  |
| Week -7 | •SG-9R  •Deworming | •Asper recommendation  •Drinking Water |  |
| Week-8[DI] | •Ma5+Clone30  •MG vaccine | •EYE drop  •As per recommendation | 29-7-2012 |
| Week-9 | •Cholera vaccine[Mult imune K 5] | **”** | 5-8-2012 |
|  |  |  |  |
| Week-10[D1&2] | Pulmuti-lAC | Drinking Water[DW] | 80ml **⁄**1000birds **⁄**day |
| Week-10[D3&4] | Reokilled | As per recommendation | 12-9-2012 |
| Week-12[D1&2] | AE+POXvacction | **”** | 27-8-2012 |
| Week-12[day 3] | Deworming | Drinking Water[DW] |  |
| Week-13[D-1] | •MA-5+Clone-3  •Coryza | Eye drop  As per recommendation | 2-9-2012 |
| Week-14[D1&2] | Pulmotil | Drinking Water[DW] | 115m **⁄** l1000birds**⁄**day |
| Week-14[D4&5] | Mg-Vaccine[MG-inac] | As per recommendation |  |
| Week-15[D6&7] | SG-9R | **”** | 15-9-2012 |
| Week-16 | Cholera Vaccine[Multi immune K5] | **”** | 26-9-2012 |
| Week-17 | •EDS-Vaccine  •Deworming | ASper recommendation | 30-9-2012 |
| Week-19 | REO+IG+NDkilled  NDlasota[on the basis oftitre] | As per recommendation  Eye drop | 17-10-2012 |
| Week-20[D1&3] | PulmotilAC | Drinking water | 175mL **⁄**1000birds **⁄**Day |
| Week-23 | Deworming | **”** |  |

**4.2.6: Debeaking**

Advantage of debeaking:

* Reduction of cannibalism.
* Feed waste will be reduced.
* Uniformity of the flock.

Debeaking is done at 7- 10 days of age of both sexes & should provide 24 hrs of supplemental vitamin K & electrolytes for 3 days.Malechicks should be debeaked by removing only 1/3 of the beak as the beak of the male is vital in the mating process. Second beak trimming is done only in female at 14-15 wks. It must bedone by experienced personnel.The machine must be checked before. New blade is used which temperature will be 650-815 °C . Debeaking is performed within 2 seconds.

The injured bird is in special nusing by vit k & again debeaking is performed. Good debeaking is very important to ensure good uniformity & optimum reproductive efficiency.

**4.3Grower management Of Female bird**

**Lighting stimulation**

The lighting program during growing, production allows for a better control of age at sexual maturity in both males and females. At the study farm the brooding period lighting was 24 hours and after brooding, by gradual decreasing way the growing period lighting was 8 hours.

**4.4 Management of Female Bird During Laying Period**

**4.4.1 Housing system:-**

The female birds were kept in the environmentally controlled house (E.C. House) in Progressive hatcheries and Poultry farm. The Environmental temperature was controlled by cooling pad.

**The house is facing East-West**

Length of house → 250 feet.

Width of house → 80 feet.

Cooling Pad → 60 feet (30 feet on each side wall along the length direction

Exhaust fan → 5

Roof of the house → Made by tin.

**4.4.2 Slat cum litter system:**

In Progressive hatcheries and Poultry farm, maintain the slat cum litter system.

**4.4.3** **Litter management:**

In this farm also used Rice husk with a depth of 6 inches for litter .per bag Rice husk was used as litter material. Before using the rice husk it was made disinfected by spraying with proper disinfectant like formalin (2/3 liter formalin + 10 water) at the rate of 300 ml solution /m2 with concentration of 7 ml /litre.

**4.4.4 Floor space requirement:**

In Progressive hatcheries and Poultry farm followed the similar floor space requirement as standard management.

**Table4. 3 Comparative study floor space requirement of chicken.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | | **Floor space requirement** | |
| **Standard (sq ft/bird)** | **Given (sq ft/bird)** |
| Female | Brooding  (0-5 days) | 0.36 | 0.36 |
| Growing  (6day-16 weeks) | 1.75 | 1.75 |
| Laying  (15wks-65wks) | 2.75 | 2.75 |
| Male | Brooding  (0-5 days) | 0.36 | 0.36 |
| Growing  (6day-16 weeks) | 3.00 | 3.00 |

**4.4.5**.**Feeding and watering:**

The feed that are supplied to the male and female breeders in their laying period are produced ByProgressive hatcheries and Poultry farm.The feeds ware supplied by automatic chain feeder. Usually the feeds were given once daily for a short period.

Water intake is influenced by several factors such as age, atmospheric temperature, relative humidity, air movement, feed intake, feed composition, health status etc..Before supplying of water to chick , the water is sanitized with Safex. Water is supplied through nipple drinker.

**Table4. 4 : Feed ingredients used for feed formulation**

|  |  |  |
| --- | --- | --- |
| Name of ingredients | Amount in kg Female breeder (for 100 kg) | Amount in kg  Male breeder ( 100 kg) |
| Maize | 60.55 | 61.31 |
| Soyameal | 24.35 | 14.44 |
| Soya oil | 3.15 | 2.5 |
| Rice polish | - | 4 |
| Wheat bran | 1.28 | 12 |
| Salt | .4 | .4 |
| Limestone | 7.3 | 2.1 |
| DCP | 1.8 | 1.8 |
| Breeder premix | .4 | .4 |
| Toxin binder | .3 | .3 |
| Methionine | .16 | .15 |
| Choline | .15 | .15 |
| Lysine | .03 | .04 |
| Enzyme | .05 | .05 |
| Mineral | .05 | .05 |
| AD sel | .03 | .3 |

**4.4.6 Lighting Management:**

In Progressive hatcheries and Poultry farm also used the lighting schedule that is similar to the Recommended lighting schedule for broiler parent stock”Cobb-500

**Table 4.5 :** **Comparative study on lighting management** :

|  |  |
| --- | --- |
| Age | Lighting hours |
| 1-2 wk | 24 hrs |
| 3wk | 23 hrs |
| 4 wk | 22 hrs |
| 5 wk | 21 hrs |
| 6 wk | 20 hrs |
| 7 wk | 19 hrs |
| 8 wk | 18 hrs |
| 9 wk | 17 hrs |
| 10 wk | 16 hrs |
| 11 wk | 15 hrs |
| 12 wk | 14 hrs |
| 13 wk | 13 hrs |
| 14-18 wk | 12 hrs |
| 19 wk | 13 hrs |
| 20 wk | 13.5 hrs |
| 21 wk | 14 hrs |
| 22 wk | 14.5 hrs |
| 23 wk | 15 hrs |
| 24 wk | 15.5 hrs |
| 25 wks up to end | 16 hrs |

**4.4.7 Laying nest:**

In slat cum litter system of rearing nest was supplied to the hen for egg laying .One nest containing 24 boxes. A single box was 12×12×12 inches and a single box was offered for 4 hens. Tenis balls were kept in the nest to stimulate the bird for laying.

**4.4.8 Male & Female ratio:**

In the study farm Female & Male were kept separately. The male : Female ratio 1:10

**4.4.9 Reproduction:**

The artificial insemination was practiced. First semen was collected from male and then insemination were done. Each cock gave 0.5-0.7 ml of semen per ejaculation .Where the dose on each insemination was 0.1 ml/hen.

**4.4.10 Egg collection:**

Then eggs were cleaned, dried and stored in the storage room. At temp 18-20ºC, The eggs were collected in Progressive hatcheries and Poultry farm daily.

**4.5 Male Management**

The key to obtaining good hatchability from today’s broiler breeders is to develop feeding and management programs that allow a correct development of the male’s reproductive system while controlling their growth potential and capacity to deposit breast muscle.

**Housing system:**

The males were reared separately in the cage system. Size of cage was 2.3 (L)×1.4(W) sq ft .Two birds were kept in each cage . The males were reared in open sided house also.

**Feeding & watering:-**

Feeds are given manually in feed trough of the nest. The management procedure of the cage system was easier than slat cum litter system. 1 nipple drinker was used for watering of 4 birds of 2 nests . Cock was fed upto 115 day to 140g of feed at an increasing manner from 21 weeks to 65 weeks of age.

**4.6 Hatchery Management:**

**4.6.1 Hatching Egg Collection:**

In Progressive hatcheries and Poultry farm Male and female ratio was 1:10. Cobb500 starts egg production from 18weeks of age, but when 5% egg production was found AI procedure was started & hatching eggs were collected. Eggs were collected from shed 6-8 times in a day. eggs were separated. The dirty eggs were cleaned with luke warm water (45°C) having 50% H2O2 and cotton.

**4.6.2 Storage of eggs:**

Eggs were stored in cooling room which temperature was 18-20°C and relative humidity was 85%.The room was equipped with a cooler unit and humidifier.

**Table 4. 6 : Suggestive egg storage conditions: (Md Elias Hossain 2000)**

|  |  |  |  |
| --- | --- | --- | --- |
| Period of stage | (0-4)days | (5-7)days | (8-14) days |
| Temperature (°C) | 17-18 | 16-17 | 14-16 |
| Relative humidity (%) | 80 | 85 | 85 |
| Egg position | Broad end up | Broad end up | Broad end up |

**4.6.3** **Fumigation of eggs:**

Fumigation of egg was done by mixing 200 ml formalin (40% solution in water of formaldehyde gas) and 100 ml potassium permanganate.

**4.6.4 Receiving of egg in Hatchery:**

Again fumigation of eggs were done before unloading the eggs from the lorry with same disinfectant spray .

**4.6.5 Selection and grading of hatching eggs:**

Eggs having the following criteria were discarded­**-**

* Small sized egg
* Misshaped egg
* Large egg
* Double yolked egg
* Thin shelled egg
* The weight of hatching eggs should be 53 to 56 grm ,

**4.6.6 Hatchery Operation And Get Hatches:**

There are two types of incubator used in Progressive hatcheries and Poultry farm. 1)**V. J. Equipment:** The no. of V. J. Equipment is one. Capacity of the setter is 90720. Capacity of the hatchery is 20300. 2)**Karamsar**.

**4.6.7 Preparation of setter and loading of eggs in setter:**

All the setting trays were washed with water and bleaching powder. Then the trays were sprayed with antiparasitic acid solution (50% H202-2 L, Acetic acid-l.0 L, 50% H2S04 -11.0 ml mixing)@3ml / L water. Then the trays were dried in the sunlight.

**4.6.8Turning of eggs.**

In the setter machine eggs were set by large end up. Eggs were turned in every 3 hours interval automatically till 18th day of incubation.

**4.6.9Candling of eggs.**

Candling is done at the 18th day of incubation when eggs were transferred from setter to hatchers. Candling was done in a dark room.

**Table 4.7:Temperature and humidity maintained in different types of incubator**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Season** | **Particulars** | | **Karamsar** | **V.J. Equipment** |
| Summer | Temperature  (°F) | Setter | 99.5 | 98.5 |
| Hatcher | 98.5 | 98.2 |
| Relative Humidity (%) | Setter | 86.5 | 86.5 |
| Hatcher | 87.8-88.0 | 87.8-88.0 |
| Winter | Temperature  (°F) | Setter | 99.8 | 98.8 |
| Hatcher | 98.8 | 98.5 |
| Relative Humidity (%) | Setter | 86.5 | 86.5 |
| Hatcher | 87.8 | 88.0 |

**4.6.10 Preparation of hatcher and transfer of eggs from setter to hatcher.**

When piping occurs within 5 to 10% eggs. Then eggs were transferred from setter to hatcher.

**4.6.11** **Grading of chicks:**

After hatching chicks were graded. Grading was done by the following way

**Grade-A:**

* Health and rigor (round bright eyes, sturdy legs, ability to stand firmly,)
* Well grown
* Trueness of type
* Freedom of any deformity

**Grade-B:**

Chicks with unhealed navels, stand up well.

**Grade-C**:Chick with crooked legs or toes, odd shaped beaks. eyes missing, pasty vents are discarded.

**4.6.12 Delivery of the chicks:**

Before delivering of the chicks in some medicinal treatment was given.

Beconex -50 ml

Dextrose- 1000 ml

Gentamycin-50 mg

All are mixed and then injected @1.0 ml to each chick at the neck region s/cly

**4.6.13 Disposal of hatchery waste:** Any hatching debris from incubators in which disease has been diagnosed or is suspected and contaminated material were buried.

**4.7 Production performance:**

**4.7.1 Feed Intake:**

.It was observed that feed intake of male was higher than female up to 5 month then the feed intake higher of female than male. Lowest amount of feed intake was 29.25 gm and 52.5gm and higher was 165gm and 139 gm for female and male bird respectively. It also can be said that the farm fulfilled the feed requirement of Cobb 500.This table indicate that the highest intake was in 10 to 13 month of age (Both male & female) and that is similar to the recommended value. So it can be obviously say that Progressive hatcheries and Poultry farm also follows the recommended guide for broiler parent stock.(Cobb-500)

**4.7.2 Bodyweight gain:** It is observed from the table very insignificant amount of difference between standard body weights and achieved. Body weight of male bird was higher than female over the 13 month and growth increased gradually up to nine month then there is slow growth for both male female. The higher body weight of female was 3.9 kg whereas the higher body weight of male was 4.6 kg in 13 month .The body weight of both male and female was close to the recommended body weight .So it can be said that Progressive hatcheries and Poultry farm achieved the target value.

**Table 4.8.Comparative study of given and recommended feed to Cobb500 birds**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Age**  **(month)** | **Feed intake**  **Grams (female)**  **Recommended**  **(Avg.)** | **Feed intake Grams)**  **(female**  **Given in Avg.** | **Age**  **(month)** | **Feed intake Grams**  **(male)**  **Recommended**  **(Avg.)** | **Feed intake**  **(male) Grams**  **Given in**  **Avg.** |
| 1 | 29.25 | 29.25 | 1 | 52.5 | 52.5 |
| 2 | 50.00 | 50.00 | 2 | 66.25 | 66.25 |
| 3 | 57.00 | 57.00 | 3 | 77.00 | 77.00 |
| 4 | 63.25 | 63.25 | 4 | 85.75 | 85.75 |
| 5 | 85.5 | 85.5 | 5 | 97.25 | 97.25 |
| 6 | 113.25 | 113.25 | 6 | 121.75 | 121.75 |
| 7 | 136.5 | 136.5 | 7 | 135.00 | 135.00 |
| 8 | 163.25 | 163.25 | 8 | 135.00 | 135.00 |
| 9 | 162.75 | 162.75 | 9 | 135.25 | 135.25 |
| 10 | 165.00 | 165.00 | 10 | 136.25 | 136.25 |
| 11 | 165.00 | 165.00 | 11 | 137.75 | 137.75 |
| 12 | 165.00 | 165.00 | 12 | 138.00 | 138.00 |
| 13 | 165.00 | 165.00 | 13 | 139.00 | 139.00 |

**Table4.9 : Comparative study of recommended and achieved body weight of Cobb- 500**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Age**  **(Month)** | **Bodywt (gm) (Female) Avg.**  **Recommended** | **Bodywt (gm)**  **(Female) Avg.**  **Achieved** | **Age**  **(Month)** | **Body wt (gm)**  **(Male) Avg.**  **Recommended** | **Bodywt(gm) (Male) Avg.**  **Achieved** |
| 1 | 334.5 | 351.25 | 1 | 422.50 | 396.25 |
| 2 | 798.75 | 806.5 | 2 | 1062.5 | 1064.5 |
| 3 | 1198.75 | 1203.25 | 3 | 1587.5 | 1607.5 |
| 4 | 1548.75 | 1557.00 | 4 | 2135.00 | 2148.75 |
| 5 | 2015.00 | 2016.50 | 5 | 2725.00 | 2698.00 |
| 6 | 2760.00 | 2767.00 | 6 | 3411.25 | 3434.5 |
| 7 | 3245.00 | 3248.00 | 7 | 3832.50 | 3850.00 |
| 8 | 3565.00 | 3563.25 | 8 | 4085.00 | 4162.50 |
| 9 | 3665.00 | 3666.75 | 9 | 4247.50 | 4296.25 |
| 10 | 3743.75 | 3750.00 | 10 | 4375.50 | 4358.50 |
| 11 | 3807.50 | 3817.00 | 11 | 4447.50 | 4455.25 |
| 12 | 3867.50 | 3871.25 | 12 | 4575.50 | 4519.75  4643.50 |
| 13 | 3910.00 | 3930.75 | 13 | 4675.50 |

**4.**7.**3 Egg production :** From the table it is seen that egg production at 8 month age was very high about 81.75% which is higher than the standard value. That is also peak production of a farm. At the starting month of age(6 month) egg production is lower about 2% and during 10-13 month the egg production was vary about 64 to 76%

**Table4.10: Comparative study of recommended and achieved monthly egg production**

|  |  |  |
| --- | --- | --- |
| **Age**  **(month)** | **monthly Egg Prod%** | |
| **Recommended (average)** | **Achieved(average)** |
| 6 | 5.00 | 2.00 |
| 7 | 47.00 | 41.75 |
| 8 | 83.12 | 81.75 |
| 9 | 80.50 | 80.25 |
| 10 | 76.50 | 76.25 |
| 11 | 72.50 | 72.25 |
| 12 | 68.50 | 68.00 |
| 13 | 64.50 | 64.00 |

**4.7.4 Hatchability:** The hatchability of Cobb -500 at is represented in fig:2 The maximum hatchability percentage was observed 91.5% at 9 month of age which was somewhat higher than the standard hatchability that is 89.57 % in that month. In Progressive hatcheries and Poultry farm all times the achieved hatchability percentage was more than the recommended hatchability percentage.

**4.7.5 Mortality:**

It is observed that the mortality was higher in Progressive hatcheries and Poultry farm than their target .The mortality of chicken were higher at the late age (11-13 month) and maximum mortality was 11.74% and average mortality was 3-7%

**Table 4. 11 : Comparative study of Standard and achieved monthly Mortality % of Cobb 500** .

|  |  |  |
| --- | --- | --- |
| **Age**  **(month)** | **Mortality%** | |
| **Standard(Average)** | **Actual (averag)** |
| 1 | 1.11 | 1.68 |
| 2 | 2.12 | 2.27 |
| 3 | 2.9 | 2.94 |
| 4 | 3.7 | 3.56 |
| 5 | 3.5 | 3.87 |
| 6 | 0.10 | 0 |
| 7 | 0.67 | 0.35 |
| 8 | 1.71 | 2.47 |
| 9 | 2.66 | 5.19 |
| 10 | 3.5 | 7.78 |
| 11 | 4.22 | 10.35 |
| 12 | 4.81 | 10.99 |
| 13 | 5.25 | 11.44 |

**CHAPTER –V**

**PROBLEMS AND RECOMMENDATION**

**Standard/Recommended Biosecurity Maintenance for Parent stock management.**

Good biosecurity must encompass all the operations carried out by a caretaker of breeding stock. Good biosecurity maintenance ensures the prevention & transmission of diseases. So each form should maintain strict biosecurity in the following way-

* Should choose an isolated area when developing new parent farm facilities.
* Each farm must have a perimeter fence to prevent unauthorized entry of people, vehicles and animals. Only essential personnel should enter the farm.
* Farms should contain flocks of a single age. As a general rule, the distance between flocks of different ages should be no less than 600 M (2000 ft). when single age placement is not possible and caretakers must enter flocks of different ages, always work in the youngest birds first.
* The farm houses should be environmentally controlled. So it will help to keep the chance of contamination.
* All building must be vermin & wild bird proof.
* All farm workers and the supervisory personnel who need to enter the farm must shower & change in to a clean uniform.
* Uniforms of the workers should be clean color coded and calendared. So it will help to control personnel movement and disease transmission within the farm or age group.
* Foot water bath should be used before entering each age group shed and regular changes of foot water bath water should be done.
* No other poultry livestock or domestic pets of any kind should be allowed on parent farm.
* Isolation of sick bird should be done in different shed.
* Post mortem of the bird should be done in a separate room far from the shed.
* Dead birds should be disposed by incinerating the carcass on farm.
* A vermin control program should be practiced at all times. It is important to maintain a clean, rubbish free environment. Rotate brands of bait regularly to prevent vermin developing resistance. Any spilled feed should be cleaned up immediately.
* Feed delivery vehicles should not enter the farm, but should fill feed bins from outside the perimeter fence. Any vehicle that must enter the farm must be washed and disinfected at the gate.
* All in all out system should be followed.

**Biosecurity Maintenance in the study farm (Progressive hatcheries and Poultry farm)**

1. This farm chosen an isolated area for developing new parent farm.
2. This farm had a perimeter fence to prevent unauthorized people, vehicles and animals.
3. All the sheds of the farm houses were environmentally controlled. So. It help to minimize the contamination.
4. All the workers took shower wore clean, color coded and calendared clothes before entering into the farm.
5. Foot water bath was used before entering into each shed.
6. There were different worker for working into different shed.
7. Regular disinfection procedures are followed both outside the shed and inside the shed. Liming outside the shed andspray were regularly used inside the farm.
8. Feed delivery vehicles entered into the farm after disinfectant spray.
9. That farm contained four environmentally controlled shed for female bird zone open sided shed for male birds against each age group of female birds. For this there was a chance of pathogen transfer through semen, caretaker or insurant of AI during semen collection from the open sided houses and artificial insemination in the environmentally controlled house.
10. This farm contain different age group flock at different shed. The distance from one shed to another shed was apx 800 ft only. So there was a chance of contamination from one flock to another flock.
11. There was no isolation shed for sick birds. Sick birds are kept within a net in corner of the same flock. So, there was a chance of transmission of microbes easily from sick bird to healthy bird.
12. There was no pest mortem room. Post mortem was done outside the shed at a distance of apx 50ft from the main shed. So, there was a chance of contamination.
13. The entire house was not rodent prof & wild bird proof. Rat mongoose & snake sometimes attach the flock.

**CHAPTER-VI**

**CONCLUSION**

From the current study it may be concluded that it is possible to achieve target body weight, production, hatching percentage of egg of Cobb 500 in our country. The observed weekly average body weight gain of Cobb 500 female were slightly higher than the recommended body weight gain up to 30 weeks but at 31 weeks they are same (3595gm) and the weekly body weight gain of male were also slightly higher than the recommended body weight gain of Cobb 500 male up to 24 weeks but from 25 weeks it becomes lower which is near about the recommended value. However the average observed weekly egg production percentage was slightly lower up to 30 weeks than the recommended egg production percentage but at 31 weeks it becomes higher i.e. 85% whereas recommendation is 83.5% and from 32 weeks it becomes very close figure of the recommendation value. The average observed weekly hatchability percentage of egg of Cobb 500 is lower at 24th and 25th weeks of age than the recommended hatchability percentage but it becomes higher from 26th weeks of age. From the analysis of data it is clear that there are very insignificant amount of differences between the observed data and recommended data. Therefore it may be inferred that Cobb 500 performed well under the existing management system.

**REFERENCES**

Ahmed, F (2008): Problems of egg production remedy of it in poultry farms. Punashcha, Reg. no DA 1440. September-2008 pp-14

Alam, J. Sayed, A. Rahman. A. Yasmin. F. and Begum, J (1994-1998) An economic research Vol. 1 no 2 to Vol 5 no 2 pp-161-174.

Anonymous. (2005) Hubbard Classic parent Stock Management Manual, Hubbard Asia Unit 57A The Faraday-Science Park Drive-Singapapore Science Park 1

Banarjee. G.C. (2007) poultry A Text Book of Aminal Husbandry, 8th edition pp-837-931.

Byerly, T.C (1941) Feed and other costs of producing market eggs. Md. Tech Bul Al.

Chowdhury S.D Das, C. Pramanik, H.A.M Roy, C.R and Saha, K.S (2003) Broiler parent Stock Production in Bangladesh. Is it possible to achieve target body weight and acceptable uniformity in open side housed? 3rd WPSA International Poultry show and Seminar pp-15-23.

Das, B.G. (2004) poultry Utpadon, 1 edition. p 89

Devegowda, G.G (2004) Fertility and hatchability the role of MOS International Hatchery Practice, 18 15-17

Heuser, G.F (1984) Feeding system & practices Feeding poultry New Yourk, Jhon Wiley & Sons. Inc London pp-272-306

Heywang. B.W (1940): The effect of restricted feed intake on egg weight, egg production and body weight poultry Science pp-19-29

Hossen, M.A (2008) Reason and remedy of lowered hatchability punashcha Reg. no- DA 1440, October-2008 pp-35

IFPRI (2000) [www.cgiar](http://www.cgiar) org/ IFPRI; www. hubbardbreders.com.

Jabbar, M. and Green, D.A.G (1983) The status and potential of livestock with context of agricultural policy in Bangladesh. The university of Wales Aberystwyth, UK pp-113.

Krishnappa, P. Devagowda, G.R and Ramappa, B.S (1992) Effect of restricted feeding on subsequent performances of broiler breeder dams. Indian Journal of poultry Science 27 1 pp-29-31

Miah, MS Islam, A.M and Ali, A.M (2003) Growth and egg production performances ofpurebred and crossbred chicken The Bangladesh Veterinarian, Vol-19 pp-43-47

Mian, MRU Haque. M.S and Hossain, MD (2005) Market performance of poultry hatchery industry in Bangladesh The Bangladesh Veterinarian Vol-22 (1) pp-43-49

MoFL. (2006) Nutritional livestock policy and action plan. Department of livestock services Dhaka.

Nabiul I and Rebeka, S (2005) Transportation and distribution of day old chicks khamar Bichitra. May-June, 2005, pp-35-36

Pervin, S. (2004) Broiler marketing in selected areas of Kishoregonj Districts, MS thesis submitted to teh Dept. of Cooperation and marketing, BAU, Mymensingh.

Raha, S.K (2007) Broiler industry in Bangladesh Some issues In proceeding of the 5th international poultry show and seminar World’s poultry scince association, Bangladesh branch, March 01-03 At Bangladesh- China friendship center, Dhaka, Bangladesh pp-1-9

Rahman, M.M Rahman, M.M Rahman, A. Islam, A.H.M.N Miah, A.H Mazumder J.U and Bhattacharjee, A.S (1998) Observation on out breaks and sub-sequent control of Infectious bursal disease in the central poultry.

Record books of Progressive hatcheries and Poultry farm.

**PRABAL CHAKRABORTY**

Intern Doctor of Doctor of Veterinary Medicine

Chittagong Veterinary and Animal Sciences University

E-mail:Prabalctg91@gmail.com

Mobile:+8801840853839

**PERSONAL PROFILES**

Name : Prabal Chakraborty

Father’s name : Naru gopal Chakraborty

Mother’s name : Ratna Chakraborty

Permanent address: Kadamtali, Khondakar para,

Rangunia,Chittagong

Date of birth : 10/09/1993

Nationality : Bangladeshi(by birth)

Religion :Shanatan(Hindu)

Blood group : O+ve

**ACADEMIC QUALIFICATIONS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name of the Examination** | **Educational Institution** | **Education Board** | **Year of Passing** | **Grade** |
| **S.S.C.** | Chittagong Municipal Model High School | Chittagong Board | 2008 | A+ |
| **H.S.C.** | Chittagong Cantonment Public College | Chittagong Board | 2010 | A |
| **DVM** | Chittagong Veterinary and Animal Sciences University | CVASU |  |  |

**My Goal**

As a human being, I have a long cherished dream to serve my nation through my knowledge, creativity and profession.As a Veterinarian, I think I have a great opportunity to fulfill my dream by developing my career in the field as a veterinary practitioner.By dealing as a veterinary surgeon,I would be able to expand and spread my knowledgealso.

I have also a high interest in Medical Research ,Wildlife health and conservation and Eco health approach.