

### **32. Classification of Poultry diseases-Viral-Bacterial-Protozoan- causative organisms, symptoms and prevention – Viral diseases – Ranikhet disease – Infectious bursal disease.**

Disease and their control.

Disease is defined as the deviation from the normal state of health which may be characterized by impaired body functions, decrease in production, mortality and morbidity

General Control measures:

1. Buy chicks from reputed disease free companies.
2. Adhere strictly to vaccination programme.
3. Keep the houses dry cool and well ventilated.
4. Rodent and fly proof.
5. Sanitation of litter, feeder and waterer.
6. Follow medication schedules.
7. P.M.disposal through burial or incineration of the waste and dead.
8. Earmark areas for specific age group.
- 9.Screening visitors.
- 10.Foot baths with sanitizers.
- 11.All in all out system.
12. Personnel sanitation.

#### **Vaccination**

It is correctly pointed out that " Prevention is better than Cure ".Many viral diseases cannot be treated but can be controlled only by preventive vaccination.

#### **1) Routes of administration**

Administration through 1) Drinking Water : It is time and labour saving method. Vaccine is reconstituted in cold drinking water along with skim milk powder at the rate of 4 gram per litre of water and used immediately. For example RDV Lasota Vaccine.

## **2) Intra ocular -Intra nasal instillation.**

The vaccine is reconstituted in normal Saline solution. One drop of diluted vaccine is applied to the nostrils or eye. Ex : RDVF . The virus particle gets absorbed in the mucous membrane and immunization is obtained.

## **3) Spray Vaccine**

Spray or mist spraying is done in chick boxes in the hatcheries. Small drops of equal size is sprayed and the boxes are allowed for 10 to 15 minutes for drying. Drying should not be done near light or by hot air.

## **4) Wing Web puncture method**

Fowl pox vaccine is reconstituted in 50% glycerol saline and taken in forked needle and vaccination is done by puncturing through wing web. Care should be taken that muscle, nerve and blood vessels are damaged by the vaccination.

## **5) Feather Follicle Method**

Pigeon pox vaccine is reconstituted with 50% glycerol saline. After plucking of the feather follicles in the internal thigh region, with the help of a glass rod, the vaccine is smeared

and rubbed . After 5 days the birds have to be examined for "Takes" . Takes are cellular reaction taking place in the nervous system.

### 6) Subcutaneous injection

Ranikhet K vaccine is reconstituted with normal saline and 0.5ml is given between two layers of skin in the wing web region without damaging nerves, blood vessels and muscle The vaccine should be protected in ice box during vaccination and should be used within one hour.

S.No.	Age	Name of the vaccine	Route of administration
1.	1 <sup>st</sup> day	Marek's Disease vaccine	Subcutaneous injection at Hatchery
2.	7 <sup>th</sup> day	Ranikhet Disease F Strain/Lasota. RD killed.	Eye drop or Nasal drop.0.2 ml S/C.on the same day
3.	14 to 16 days (II week)	Infectious Bursal disease(live) IBD(killed)	Eye drop 0.2 ml. S / C on the same day
4.	21 to 24 th day (III week)	Infectious Bronchitis	Eye drop
5.	30 to 35 days	Ranikhet disease-Lasota strain	Eye drop
6.	42 to 45 days	Infectious Bursal disease (live)	Eye drop
7.	56 to 70 days (8-10 th week)	Ranikhet disease "K" (Mesogenic)	Subcutaneous
8.	84 to 91 days (12 - 13 <sup>th</sup> week)	Fowl Pox vaccine	Wing web puncture or Intramuscular
9.	91 to 98 days (13 to 14 <sup>th</sup> week)	Infectious Bronchitis Vaccine	Through Drinking Water
10.	126 to 133 days	Ranikhet disease K" (Mesogenic)	Subcutaneous Injection

11.	After peak production , every 8 Weeks	Ranikhet Disease Vaccine "Lasota"	Through Drinking Water
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1. Live vaccine and killed vaccine should be administered on the same day by different persons.
2. The IBD vaccine should be administered only in the out break area.
3. In the pullet( nearing egg laying stage)or during out break of Ranikhet disease the RDVK vaccine should be preferred toLasota strain.
4. Before RDVK vaccination the birds should be dewormed.

### **Debeaking**

It is recommended to debeak the layer birds to control feather pecking and cannibalism, bullying. It is carried out by means of electrocautery. It is important to remove only one third of the upper beak taking care to avoiding tongue. It is usually practiced at the age of 10-14 days and repeated at the age of 14-16 weeks. Debeaking should never be done with penknife.

Overcrowding, inadequate space for standing/ feeding/ watering and resting, starvation, external wounds, less fiber diet and deficiency of vitamins and minerals may pre dispose the birds to cannibalism.

### **Procedure**

The bird has to be restrained by holding wings and legs by left hand and the tongue is pushed backwards by opening mouth and introducing index finger so that the tongue is not cut The upper beak is cut to 1/3<sup>rd</sup> of it's length and the lower beak is slightly trimmed.. After

debeaking vitamins and antibiotics are to be administered for 3-5days to avoid stress and secondary infections.

## **Deworming**

Is the process of removing worms from digestive tract of the birds. The tapeworm passes segments and is consumed by intermediate host (earthworm, cockroach) where intermediate stage get developed and passed out, which inturn is consumed by host. The eggs or ova of round worms are passed in the droppings which is picked by other birds directly or indirectly with the help of chance carriers (personnel, insects, flies, ants, etc). Sometimes wild birds such as crows may serve as source of infestation.

Birds show the following symptoms when they are infested with worms

- 1 Dullness- weakness, emaciation
- 2 Paralysis-due to toxins produced from worms
- 3 Enteritis-diarrhea with blood
- 4 Anemia-due to sucking of blood by worms.
- 5 Drop in egg production.

If infestation is on a larger scale there may be mechanical block of intestinal lumen and some times rupture occurs. This may also result due to intestinal stasis of food particles.

Deworming is practiced at intervals of 45days in layer birds and also before RDVK vaccination. Deworming is done against tape worms only on absolute necessity.

## **Delicing**

Is the process of removing of external parasites like ticks, mites and fleas which suck the blood from the bird .The following symptoms are observed during external parasitic infestation:

itching, restlessness, external wounds, loss of body weight, weakness, anemia and drop in production.

### **Procedure**

The dipping of the birds in sunny days has to be done with the following chemicals to remove the external parasites.

1. sumathion or malathion -5ml in 100ml of water. The bird has to be immersed in the chemical solution avoiding eye and mouth. The dipped one has to be dried in a separate enclosure. The feeders, waterers and building should be sprayed with this chemical solution to remove the external parasites. After dipping, to relieve stress to the bird vitamin A, B complex has to be given to improve the health of the birds.

Ranikhet Disease – New Castle Disease

Virus- Para myxo viridae

Very important disease affecting poultry

rainy season in India has been found to be more favourable for the occurrence and spread of the disease. In native fowls this disease occurs in summer.

Peracute- without symptoms and sudden death

In a typical outbreak depression is observed, characterised by prostration, closed wyes, drooping wings and loss of appetite.

There is usually greenish or yellowish diarrhoea.

sometimes in neural form there may be twitching of neck, incoordination or even paralysis. Egg production drops and sometimes-soft shelled or shell less eggs may be laid. Respiratory distress may be observed.

Prevention and control: chicks should be vaccinated with F strain or lasota strain on the first day or within 5 days after hatch and with a booster dose at 8-10 weeks. RDVK strain is usually

administered at 8 weeks of age. In layer flocks, booster dose of Ranikhet vaccine is given every 2 months.

Infectious bursal disease: Gumboro disease

-Highly contagious

IBD virus

Bursa is affected- Immuno suppression- humoral antibodies production affected

Usually chicks of 2-6 weeks old affected

Symptoms- whitish diarrhoea, vent pasting, unsteady gait, tremors,

Prevention – Vaccination at 2<sup>nd</sup> & 3<sup>rd</sup> weeks of age