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Lecture title: Vaccination and Preventive medication against dreadful poultry diseases

Lecturer Affiliation: niversity of Mosul, Ali Abdalwahab .M.Alkahla, BSc, MSc, PhD. https://orcid.org/0000-0001-8320-0558

Summary:

- In case of poultry health management, **(prevention is better than cure)** principle is to be applied more seriously. So proper vaccination schedule is to be followed to develop immunity against killer poultry diseases.

The requirements for successful vaccination

1. Vaccine itself **induces stress** to the birds. So use of all available vaccines for a particular bird is not generally recommended, and it very much depends on the **incidence of a particular disease** in the farm and its surrounding areas.
2. Vaccines should be procured only from **reliable sources**.
3. The vaccines are to be **stored under refrigeration** until use at the temperature of 2° to 8°C.
4. Proper vaccination **schedule** including **accurate dose** of vaccines and **proper age** of birds are to be followed as recommended by the manufacturer.
5. **Expired vaccines** and left-over vaccines should **never be used**.
6. It is desirable to vaccinate the birds **during the cooler part of the day**, either in the **early morning** or in the **late evening** especially in summer months.
7. Vaccination should **not** be done to the **sick birds**. Only healthy birds are to be vaccinated at their recommended ages.
8. It is desirable to **provide some vitamins** at least a week before the vaccination to overcome vaccine induced stress.
9. For vaccination through **drinking water**, birds are to be **kept thirsty** for a few hours before giving vaccine containing water. Clean and cold drinking water should be used for this purpose and it should be free from chlorine or any drug.

ROUTES OF ADMINISTRATION OF VACCINES IN POULTRY

- **Different routes of administration of vaccines in poultry are:**

1. Oculo-nasal route (drop into eye/nostril)
2. Oral route (in drinking water)
3. Aerosal route (spray)
4. Parenteral route (injection)

1. Oculo-nasal route (drop into eye/nostril) :

- Some vaccines are applied through **eye** or **nostril** with the help of **dropper**.
- General dose is **1 drop** into eye/nostril.
- This intra ocular/nasal route is generally used for application of vaccines **at the early part of bird's life**.
- This route is easy to apply and a satisfactory one.
- Several vaccines which can be applied through this route are available in the market, **e.g.** Newcastle disease vaccine, Gumboro vaccine, Infectious Bronchitis vaccine, etc.

2. Oral route (in drinking water) :

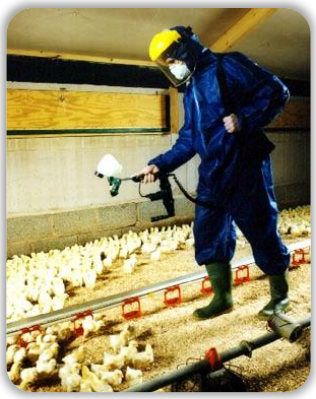
- This is a very easy route of administration of vaccines and commonly used.
- But its effectiveness is not assured all the times. It is better to use this route to condition the birds for stronger vaccines.

- **The following points are to be kept in mind for application of vaccines through this route (Oral route procedure) :**

  1. Birds should be k**ept thirsty for a few hours** before application of vaccines in the drinking water.
  2. The **water** should be **free from chlorine** or any **drug**.
  3. **Waterers** must be **thoroughly cleaned** and washed with clean water to remove disinfectants.
  4. It is better to **add skim milk powder** to water for vaccine administration (2.5-3g/liter). **The milk protects the vaccine against residues of disinfectants & adverse pH reaction**. **Pasteurized whole milk** may also be used for this purpose (30-50 ml milk/liter of water).

- Vaccines which can be applied through oral route are available in the market, **e.g.** Infectious Bronchitis vaccine, Gumboro vaccine, Newcastle disease vaccine, etc.

3. Aerosal route (spray) :



- Vaccines may be used through **aerosol route**, i.e., by means of **spraying within the poultry house when the air is still**. Birds inhale the vaccine in the form of dust or spray. This is an **easy and very effective method** of vaccine administration.

- Vaccines which can be applied through this route are available in the market, **e.g.** Newcastle disease (Lasota/F1) vaccine.

4. Parenteral route (injection) :

- Some vaccines are applied through **parenteral route**, i.e., **intramuscular injection** (I/M) or **sub-coetaneous injection** (S/C).