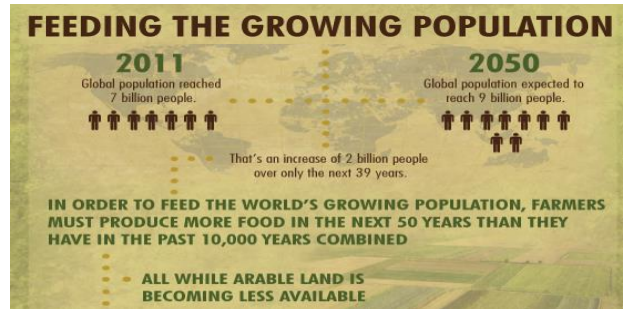


GUMBORO

THE

Silent KILLER

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Increase
Production
by
Improving
Productivity



- 20%

One Fifth of Livestock
around the World is Lost
due to **Disease**

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INFECTIOUS BURSAL DISEASE

Infectious Bursal Disease (IBD) or Gumboro is the most important highly contagious Viral disease of Poultry

Clinical form is common but Sub-Clinical form is doing the menaces



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IBD

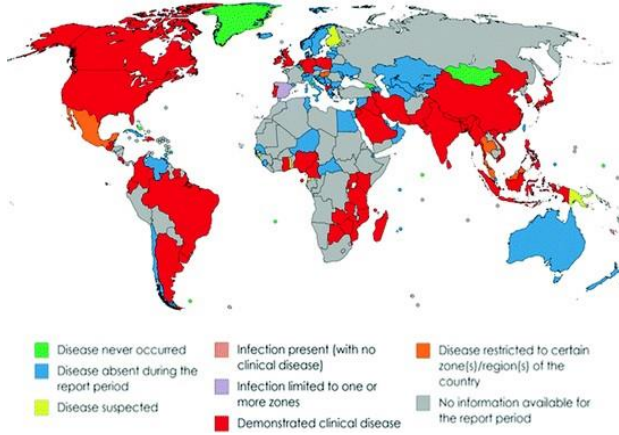
➤ The disease is a major problem in concentrated poultry production areas throughout the world



➤ It is often not recognized due to a sub-clinical form. Affected chickens have increased **vaccine failure, strong post-vaccinal reactions, & increased incidence of secondary infections.**

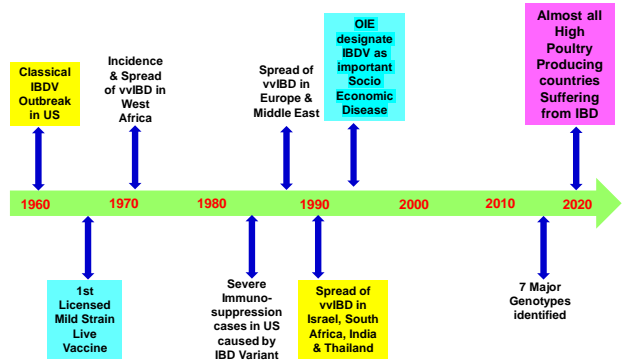
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Global IBD Presence



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Chronological Events of global IBD



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IBD

IBD is characterized by destruction of lymphocytes in the Bursa of Fabricius and other lymphoid organs like Thymus, Spleen etc



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IBD

The virus is resistant to many disinfectants and environmental factors, and remains infectious up to 122 days in the poultry house environment.

Because of the resistant nature of the Virus, once a poultry farm becomes contaminated, IBD tends to recur in subsequent flocks



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IBD

If the Virus damages the Bursa in young chicken; the Bursa will not be producing sufficient numbers of Lymphocytes necessary for Immunity

Thus, the birds will experience reduced immune system capabilities (Immuno-Suppression)

The earlier the damage to the Bursa occurs, the fewer lymphocytes with antibody-producing capability will be produced.

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IBD**Clinical GUMBORO**

The clinical form usually occurs between 3 to 6 weeks of age



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IBD

The clinical disease has a sudden onset; mortality rate in the flock increases rapidly

Clinical signs include dehydration, trembling, ruffled feathers, **vent pecking** & depression

Affected chickens experience a transient immuno-suppression.



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IBD

➤ Necrosis & damage also occur in the secondary lymphoid organs like spleen & caecal tonsils

➤ **Haemorrhage may be seen in the thigh and breast muscles, because the IBD virus interferes with the normal blood clotting mechanism**

➤ The **kidneys are swollen in dead birds.**



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IBD

PM Lesions of Clinical IBD

- Initially, the Bursa is swollen, oedematous and has a gelatinous yellowish secretion covering the serosal surface.
- Haemorrhage and areas of necrosis may be present in more severe cases.



➤ 5 days after infection, Bursa diminishes in size rapidly (atrophy).



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IBD

SUBCLINICAL I B D

- The sub-clinical form of the disease occurs before 3 weeks of age where Chickens show no clinical signs, but experience severe & permanent Immuno-suppression
- The majority of field infections are sub-clinical, and this form is the more economically important

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IBD

PM Examination shows the damage & regressed Bursa due to Immuno-suppression



Bursa of 11 day age dead Chicks

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Bursa of 9 day age dead Chicks

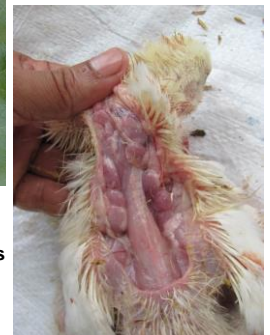
IBD

PM Examination; Damage & regressed Bursa and Enlarged Thymus due to Immunosuppression

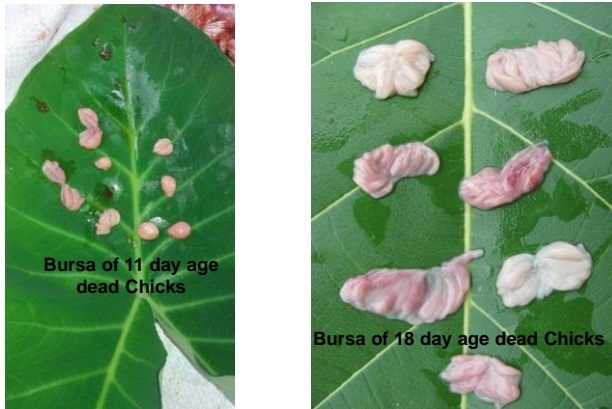


Bursa & Thymus of 18 day age Chicks

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IBD P M Examination; Damage & Regressed Bursa due to Immunosuppression



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➤ *Integrator commonly have farms identified as **problem farm**. Broilers from these farms have poor Body Weight, High FCR, high Mortality, Excessive Vaccine reactions*

➤ In most cases, investigations have shown that these farms are heavily contaminated with the IBD virus

The poor performance is due to immuno-suppression caused by sub-clinical IBD

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IBD

DIAGNOSIS

- Diagnosis of IBD involves the Farm history, Flock record, Clinical Signs & PM Lesions
- Obviously, Chicken greater than 3 weeks of age only shows clinical signs
- Diagnosis of IBD by post-mortem lesions is more authentic
- During later stage of disease it is difficult to diagnose IBD by examining only shrunken, atrophied Bursa, as other diseases (Marek's disease, Mycotoxicosis) produce similar changes
- Confirmatory Diagnosis should be done by Laboratory test like ELISA

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TREATMENT

There is no treatment

Proven Anti-Viral like VIRKON-S @ 2gm per litter drinking water helps reducing mortality

Electrolytes helps to regain vitality by correcting dehydration

Vit E & Se or Immunostimulant like β -Glucan helps immunity development

Virkon-S spray inside the shed helps controlling horizontal spread of the disease

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IBD**PREVENTION AND CONTROL OF IBD**

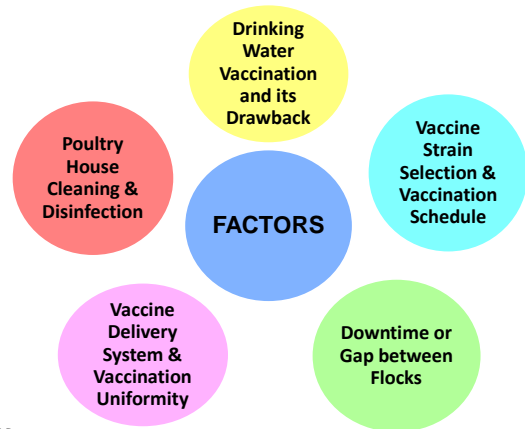
Any successful IBD Control Program

1. **Effective Breeder Vaccination program**
2. **Effective Bio-security program** &
3. **Effective Broiler Vaccination program**

Any IBD virus control program should attempt to protect the Bursa as long as possible

In practical, if the Bursa can be protected until at least 3 weeks of age, adequate lymphocytes should be produced, and the immunosuppressive effects of an IBD outbreak should be minimal

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Factors influencing control strategy

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IBD

Control of IBD is very Difficult because

- Virus remain infectious in poultry house environment up to 122 days
- **Virus remain stable at pH ranging 2 – 12**
- Heavy Viral shedding from infected birds
- **Can only be destroyed by boiling for 30 minutes at 70° Celsius**
- **Remain infectious in feed, water & poultry house droppings up to 52 days**
- **Disinfectants takes long contact time to kill the virus**

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IBD

IBD Control Program shall involves

1. ALL IN ALL OUT Farming System

2. Vaccination of breeder is most Important. Antibodies produced by the hen are passed through the egg to the chick. These MAb, if present in adequate levels, protect the chicks against early sub-clinical IBD

Breeder Vaccination Program shall not only to protect the Parent Stock but also to contribute sufficient Mab to progeny

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IBD 3. Poultry Traffic (people, equipment & vehicles) Control



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IBD 4. Proper Cleaning and Disinfection between flocks



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IBD

Proper Cleaning and Disinfection between flocks



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5. Development & Enforcement of comprehensive Bio-security program mainly includes **Disposal of Dead Birds**



6. Restriction on Sale of Sick Birds



IBD**7. Disinfectants of Contaminated Premises by Good Terminal Disinfectant**

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**IBD****8. Scientific Vaccination Program****Things to consider to select Vaccination program**

- History of IBD incidence of the area**
- Bird Type – Layer, Breeder or Broiler**
- MAB of Chicks**
- Virus Strain available in the area**

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IBD**Criteria for Ideal Vaccine in Current Scenario**

- Early Protection in presence of Mab**
- Stimulate Active Immunity in presence of MAb**
- Safe for Chicks with low levels of MAB**
- Broadly Antigenic Stimulation of Antibodies**
- Convenient & Easy Administration**
- Uniform Delivery to every Chick**
- Single Administration to provide Full Protection with long Lasting Immunity**
- Cost Effective**

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IBD**Vaccination Program in our Broiler Farms**

Conventional 12th Day Vaccination with Strain as referred by Poultry Veterinarian

IMMUNE COMPLEX or **VECTOR VACCINE** at Hatchery or In-Ovo; No IBD Vaccine at farm. Started in India with Success

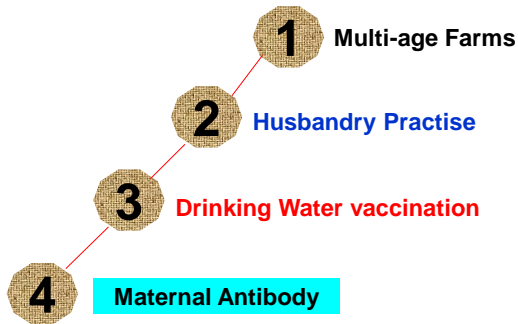
Double IBD Vaccination: 7 - 8 Day Intermediate and 16 Day Intermediate Or Plus Vaccination as advised by the Poultry Veterinarian (with low MAB from out-source Hatching eggs)

Remember the Fact:

Who reaches Bursa first; will sit, stay & multiply.
If it is **Field virus**, then **Disease will come**.
If it is **Vaccine Virus**, then **Immunity will produce**

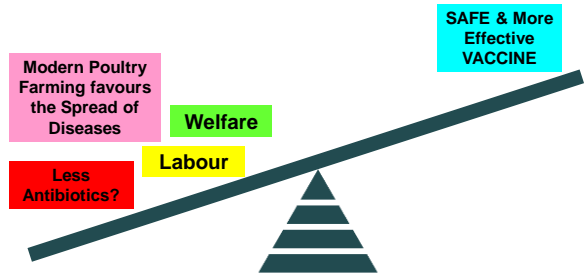
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Cause of Sporadic outbreak



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'Quick and Not Always Right' conclusion



Best Vaccine & best method alone not sufficient to prevent IBD

Vaccination together with best Bio-security helps control GUMBORO Disease

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IBD

Best Bio-security
 (Cleaning, Disinfection, Traffic Control & Mortality Disposal)
practice must be continuous,

Improvement is gradual
 and
 often only seen after
3 to 4 flocks

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THANK YOU

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