

Infectious Bursal Disease (IBD) or Gumboro Disease:

Infectious Bursal Disease (IBD), or Gumboro Disease, is a viral disease affecting young chicken. The disease has a worldwide prevalence. The target organ of the virus is the Bursa of Fabricius, an important organ in the young chickens developing immune system.

IBD was first described as a specific new disease by Cosgrove in 1962 in the town of **Gumboro**, Delaware, USA. Variant IBDV strains were first reported in the USA in 1986/87, while Hyper or very virulent IBDV strains were first reported in Belgium and The Netherlands in 1987.

The economic impact of an Infectious Bursal Disease Virus (IBDV) infection is twofold:

1. Direct mortality that can reach levels in excess of 40%, and
2. Secondary infections, due to a suboptimal immune system, having a negative impact on production efficiency.

The negative effects of IBDV can be successfully controlled by vaccination and implementing sound biosecurity principles.

Disease Control

Due to the hardy nature of IBDV and the widespread distribution of the virus, prevention and control of this disease requires a well co-ordinated approach balancing biosecurity/hygienic measures and vaccination.

Vaccination

Vaccines form an important part of a Gumboro control strategy. The choice of vaccine to be administered depends on the type of chicken being vaccinated and the prevailing challenge situation.

Due to the resilience of the virus vaccination forms the backbone of IBDV control. Two types of vaccine are used:

- Inactivated IBDV usually formulated in an oil emulsion adjuvant.
- Live attenuated IBDV strains.

Inactivated IBDV vaccines are administered to boost the immunity of parent birds. A high level of immunity in the parents results in a high protective level of maternal derived antibody in the progeny chicks.

Good protection is achieved by the induction of high levels of neutralising antibodies in the chicken. Antibodies neutralise the virus before infecting the bursa, or at lower antibody levels sufficient virus is neutralised to prevent clinical disease.

Kienyeji Vaccination (including KARI, Kuroiler and Kenbro)

DAY	VACCINE	METHOD
10-14	Gumboro Intermediate	Drinking water
24-28	Gumboro Intermediate Plus	Drinking water

Biosecurity

Basic management practices such as limited controlled site access, separate footwear and equipment for each site/house, and footbaths at the entrance to sites/houses all minimise the risk of introducing the virus. Due to the resilience of IBDV an infection on a site easily leads to an endemic situation. Hygienic measures are aimed at minimising infection pressure. Priority is to remove contaminated litter from site as soon as possible. A structured approach is required to prevent back tracking of the virus.

- **Dry clean:** removal and disposal of all organic material from the site. (In case of earthen floors this should include removing the top 4-5 cm of soil.)
- **Wet clean:** cleaning poultry house using water at high pressure (35 – 55 Bar) to ensure removal of all organic material. It is advisable to add detergents to assist cleaning process.
- **Disinfection:** application of suitable disinfectant to reduce infectivity of any remaining virus particles.

Applying disinfectants at the correct concentration with a suitable contact time is critical. Generally products containing formaldehyde, iodophores, chlorine-releasing agents or quaternary ammonium compounds are suitable.

The downtime between successive broiler flocks must be maximised. (A minimum of 10 days is recommended between successive flocks.) Control of IBDV on multi-age sites is extremely challenging and requires strict control of the movement of personnel and equipment between houses.