Gumboro disease control through a perfect balance of safety and efficacy

For the proper control of Gumboro disease (IBD), it is essential not only protect the disease outbreaks, but fundamentally prevent the risk of replication of the field strains. What is named prevention, as it is known, can impact the results in the field and the processing of the broiler's carcase in the slaughterhouse.

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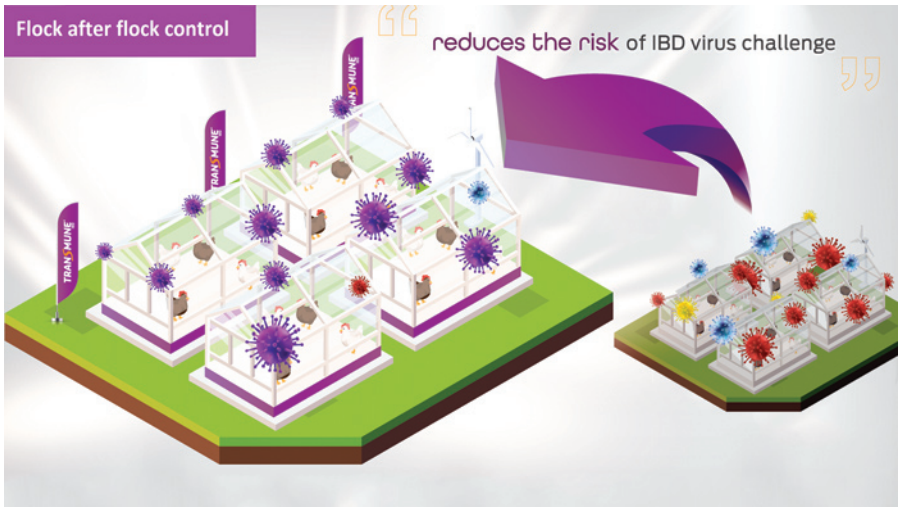
For that the name of the game on the controlling for IBD will be though vaccination block the bursa, by the replication of the vaccine virus, and this way preventing the field strains from infecting the chick.

The objectives of Gumboro vaccination programme can be seen in Table 1.

For this, a live virus must be used, so that this block actually occurs.

The strain used in the immune-complex IBD vaccine, as the W2512, must be attenuated and maintain its invasiveness without generating any kind of permanent damage to the cells of the bursa.

It is important to note that the lymphoid depletion generated by intermediate or intermediate plus strains, in which a decrease in bursa size is observed, is physiological and transient, not impacting the immune system of birds.



Displacement of IBDV field strain by vaccination.

Virus Protecting Immunoglobulins

At the same time, this virus must be protected by antibodies (Virus Protecting Immunoglobulins VPI) so that the release occurs at the right time, and the inactivation of this vaccine virus does not occur, as in the Immune-complex IBD vaccines.

A correct balance between the IBD virus and the anti IBDV antibodies is of crucial importance for the efficacy and safety of these vaccines.

These vaccines have the ability to fully colonise the bursa, protect against all field IBD viruses and overcome MDA; some of the key advantages of the immune-complex vaccines.

The vaccine take occurs when the MDA level decreases to a point that allows the vaccine virus to be released and to reach the bursa of Fabricius.

From this moment on, the vaccine strain will replicate in the bursa of Fabricius and the chicken will be immunised against any type of IBD virus. The fact that the virus is covered by VPI's is important to maintain safety and stability in chickens with varying levels of maternal antibodies.

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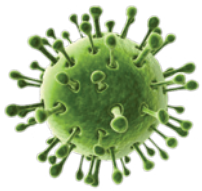
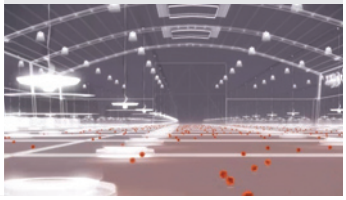
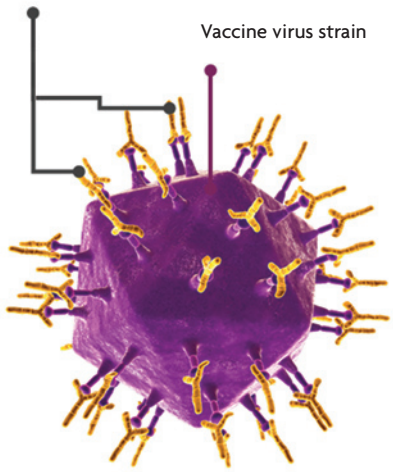
Table 1. The objectives of Gumboro vaccination programme.

VIRAL PROTECTION	CLINICAL PROTECTION	AVOID THE SHEDDING	CONTROL
Ensure continuous protection of the chickens against infection by the field strains.	The chickens should be protected against the clinical consequences of infection.	To prevent or significantly reduce the amount of virus shed after challenge.	Stop the volution of the IBD virus towards a form that could escape the prevention programme.
			



Structure of the IBD immune complex.

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In case of low levels of MDAs, replication of the vaccine virus will occur earlier, and in birds with higher levels of MDA, it will occur later.

In all birds thus adapted according to the most appropriate time for replication, and thus onset of active immunity.

Gumboro disease control

Understanding the important to block the bursa by a live vaccine, and in this way prevent the build-up of a higher virus pressure, cycle after cycle, and stop the evolution of the IBD virus towards a form that could escape the prevention programme.

These are the consequences of the 'protection against shedding'. In other words, the objectives of a sound Gumboro vaccination programme should aim at stopping the Gumboro cycle. To achieve the stop of the Gumboro disease, the vaccination programme should be well fitted.

In addition to vaccination, we should not forget that other factors that should be observed for optimal short-term and long term control of Gumboro disease include biosecurity, cleaning and disinfection, and the passive immunity.

Conclusion

In summary, to have IBD under control and keep the consistency of the broiler production, provide protection against clinical and sub-clinical infection, and prevention of field virus replication is essential.

But it should be done with safety, as the immune-complex vaccine Transmune, that adapts to different maternal delivered antibodies levels, blocking the bursa for a better Gumboro disease control. ■