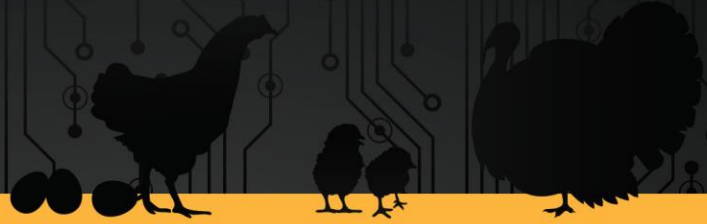


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Vaccinating your Broilers: From the Decision-Taking to the Application

Dre Annie Borduas, m.v.

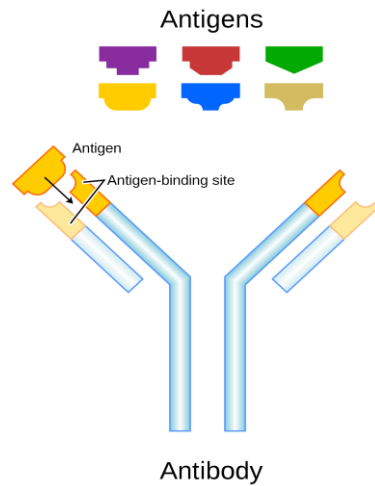
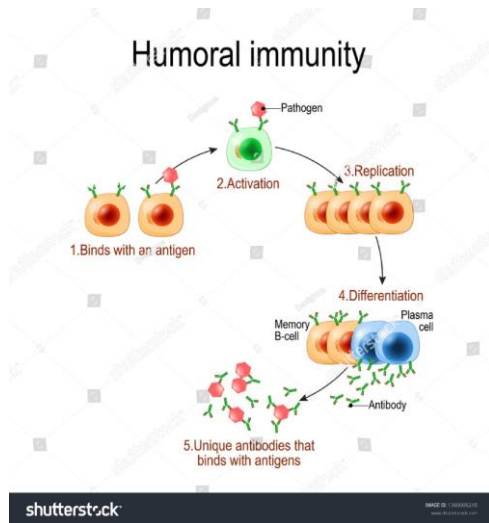
Services vétérinaires ambulatoires

TRIPLEV inc.

Overview

- How do vaccines work?
- Why vaccinate?
- When to vaccinate?
- How to vaccinate? What are the different strategies?
- Is vaccination working?
- How long to vaccinate?

Humoral Immunity



<https://en.wikipedia.org/wiki/Antigen>

Vaccination Context

- Presence of virus on the site
- Virus-related problems
- Viral challenge intensity
 - High density vs. low density region
 - Regional context
 - Site using rotation vs. All-in/All-out
 - Downtime
 - Environmental control (manure management)
 - etc.
- Economic issue?

Diagnosis

- Serology at the end of each flock = detection of the presence and state of the challenge on the site
- Positive PCR = presence of virus and quantity
 - Possibility to identify the strain
- Gross/macrosopic and histological lesions
- Slaughterhouse condemnations = Monitoring



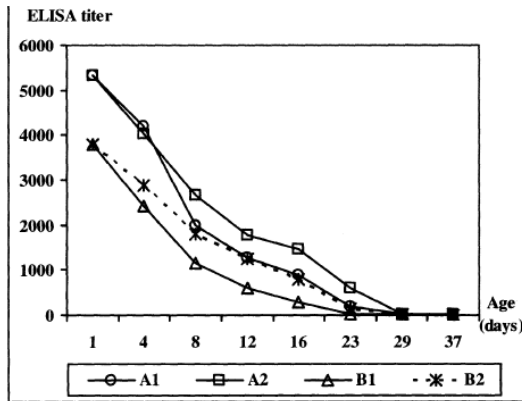
Time of Vaccination

- Presence of maternal antibodies
- Optimal efficiency of vaccination
- Respecting withdrawal

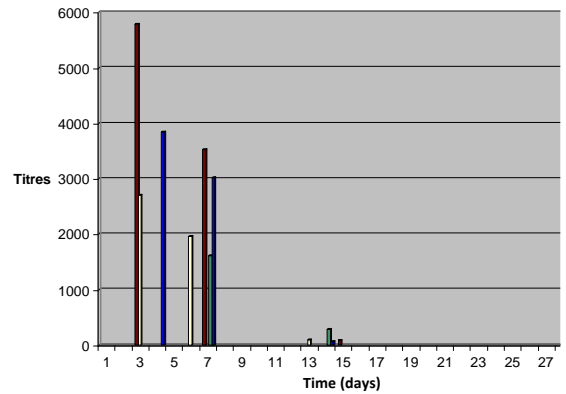


Maternal Antibodies

Gumboro



Bronchitis



Hatchery/Aerosol/Drinking Water

- Adapting the strategy to the farm situation
- Impact of mixing different vaccines
- Water quality on the farm/Water line sanitation
- Availability of a trained person for on-farm administration

Vaccine Conservation

- Maintaining the cold chain
- Temperature monitoring



Vaccination Options

	Hatchery - Aerosol	Hatchery - In ovo	On Farm (Air/Water)
Uniformity	++	+++	+ / ++
Duration of immunity	+	+++	++
Ease	+++	+++	+ / ++
Cost	\$	\$\$\$	\$\$

Aerosol in the Hatchery

- Ease of administration - no handling on the farm
- More uniform vaccination (calibrated machine)
- Local immunity
- Limited protection
- Possible for: Bronchitis, Gumboro, E. coli, Coccidiosis, etc.



In ovo at the Hatchery

- Ease of administration - no handling on the farm
- More uniform vaccination (calibrated machine)
- Humoral immunity
- Protection during the entire rearing
- Marek + Gumboro, Laryngo, NewCastle recombinant vaccines



Drinking Water

- On-farm administration - training required
- Via the gut
- Good for Gumboro
- Choosing the age of administration
- Installation cost
- Several interference factors

Drinking Water

- On-farm administration - training required
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Drinking Water



Drinking Water - Audit



Aerosol

- Equipment cost
- On-farm administration - training required
- Via respiratory system or gut
- Choosing the age of administration

Vaccination Equipment



Individual Protection Equipment



Adjusting the Equipment



Preparing the Birds



Vaccination Method



Most Frequent Mistakes

- Vaccine vaporization: poor application, obstacles, birds not grouped properly, 2-gun vaccination (lack of pressure, vaporizing space with few or no birds)
- Poor machine adjustment (pressure screw)
- Poor disinfection of the vaccination equipment:
 - Disinfectant still present during vaccination
 - Poorly cleaned equipment
- Insufficient water volume and number of passes

Most Frequent Mistakes

- Fans still working (make sure the birds are comfortable when starting them back)
- Vaccine solubilization: opening bottles under water, shaking (suspension), wearing gloves
- Water vaccination: insufficient duration, inequality between floors (important to raise the water lines and load them before beginning the vaccination), insufficient fasting, residual chlorine

Validating the Vaccination Method



Validating the % of Vaccinated Birds



Lightly wet



Wet

Validating the % of Vaccinated Birds



Oral vaccination with colouring

Consequences of Sub-Optimal Vaccination

- Inefficient vaccination
- Possible vaccine reaction (lethargic birds)
- Vaccine "rolling" with excretion by vaccinated birds and "infection" of unvaccinated birds

Efficiency Evaluation

- Serology for an ELISA IBD?
- Random bird necropsy
- Slaughterhouse report (condemnation)

PROFLOK[®] IBD AB INFECTIOUS BURSAL DISEASE (IBD) VIRUS ANTIBODY TEST KIT (CHICKENS)

An ELISA test kit for the detection of IBD virus antibodies in chicken sera

Additional confirmatory testing should be performed to determine flock infection status.

[Collapse All](#)

Key Benefits

Highly Specific for IBD Virus Antibodies

Excellent Specificity¹

Chicken Sera:

- ProfLOK[®] IBD Ab demonstrated excellent specificity to IBD virus antibodies but did not react significantly with antibodies to other avian pathogens tested.
 - Each sample was tested with 3 replicates per plate and tested in 5 ProfLOK[®] IBD Ab plates.

¹Data on file, Efficacy Study Report, June 6, 1997, Zoetis Inc.

PROFLOK[®] PLUS IBD ELISA INFECTIOUS BURSAL DISEASE (IBD) VIRUS ANTIBODY TEST KIT

RELIABLE DETECTION OF IBD VIRUS ANTIBODIES IN CHICKEN SERA

An ELISA test kit for the detection of IBD virus antibodies in chicken sera



Additional confirmatory testing should be performed to determine flock infection status.

[Collapse All](#)

Key Benefits

Detects IBD Virus Antibody Response to BD Reassortant VP1 Vaccines¹

Excellent Specificity¹

Chicken Sera:

- ProfLOK[®] PLUS IBD demonstrated excellent specificity to IBD virus antibodies and did not react significantly with antibodies to other avian pathogens tested.
 - Each sample was tested with 3 replicates per plate and tested in 5 ProfLOK[®] PLUS IBD ELISA plates.

¹Frederick F, Butler M, Leffler F, K. Garber A, Pappas L, Lantieri B, C. Assessment of the immune response in broilers and pullets using BDV (L200/04) and in mice of the age 100 microtiter with a reassortant (RT + BD) vaccine (PROFLOK[®] PLUS + BD) (2005) (International Conference on Poultry Diseases, 2005).
²Data on file, Efficacy Study Report, November 5, 1997, Zoetis Inc.

Serology After the Vaccine Without Challenge (In ovo vs. On the farm)

	IBD + kit		Regular IBD kit	
	In ovo	On farm (10-12 d)	In ovo	On farm (10-12 d)
Nb of birds	5	5	5	5
Mean	10 948	0	474	0
GMT***	10 898	0	54	0

Reference: Dr. Louis Coulombe

On-Farm Necropsies



Stopping Vaccination?

- Evaluate the challenge persistence on the farm
- Geographical location
- Biosecurity
- Contamination risk
- Myth of stopping vaccination in summer

Other FAQs

- If a house is vaccinated, should all the other houses on site be vaccinated too?
- If I decide to vaccinate and my neighbour doesn't, what are the possible impacts?
- If birds are sick, should I vaccinate?
- Can I vaccinate during an antibiotic treatment?
- How many flocks need to be vaccinated before an impact can be seen?
- Are blood tests a good way to evaluate the vaccination technique? Is it efficient?

Questions?



<https://fr.depositphotos.com/vector-images/poulet-humoristique.html>



<https://fr.dreamstime.com/poulet-comique-en-mauvais-%C3%A9tat-tasse-caf%C3%A9-image144274442>