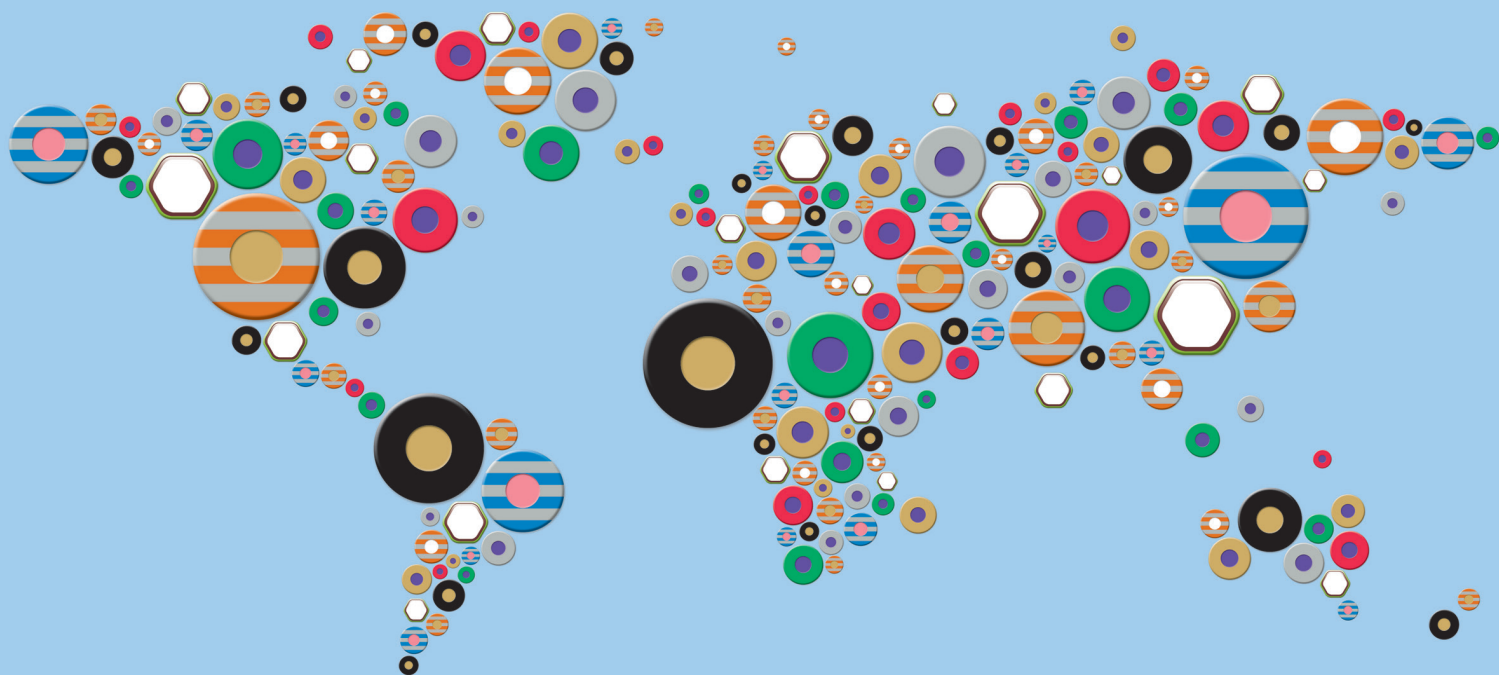


NOBILIS® IB MULTI RANGE

For solid & durable Infectious Bronchitis protection.

A whole world of protection.



The most comprehensive vaccine range for Infectious Bronchitis control.

Protectotype

ONLY FROM MSD ANIMAL HEALTH

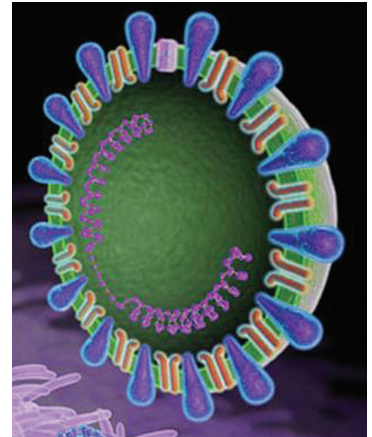


MSD
Animal Health

Infectious Bronchitis and IB control in chickens.

Infectious Bronchitis virus *"Corona virus"*

- RNA-viruses are prone to mutations and recombination.
- New variants of IBV can emerge as a result of few amino acid changes in the S1 part of the spike genome of the virus.



Economic impact

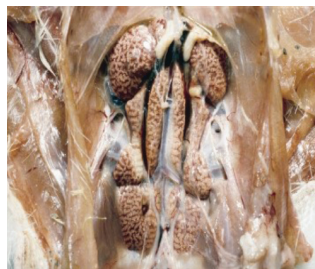
- One of the biggest economical threats to broiler, breeder and layer producers.

Respiratory signs



Open mouth breathing

Uro-genital tract signs



Nephritis

Egg production drop & egg quality



Egg drop & egg quality



False Layer

Current IB control

- Due to constant changes in IB field virus and the presence of many different IB variants, IB control requires broad protection. This can be achieved by use of the protectotype approach first developed by Dr J Cook and published in Avian Pathology (AP 28 1999. pg 477-485).
- With the use of 2 very different IB strain vaccines we can induce broad protection. The base for the Protectotype concept is the use of live IB vaccine Nobilis® IB Ma5 in combination with Nobilis® IB 4-91.
- In broilers we only use live vaccines to induce strong local immunity in the respiratory and urogenital tracts. In long live birds it is recommended to add a booster of inactivated Nobilis® IB Multi combination oil to induce high levels of circulating antibodies installing solid, long-lasting immunity.

Protectotype

BROADENING PROTECTION

Broader control of IB variants in the field

Breadth of protection of the respiratory tract provided by different live-attenuated infectious bronchitis vaccines against challenge with infectious bronchitis viruses of heterologous serotypes¹

¹Jane K. A. Cook, Sarah J. Orbell, Martyn A. Woods & Michael B. Huggins. 1999
Avian Pathology 28: 477-485

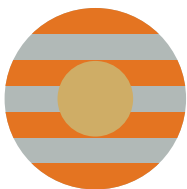
Intervet UK, The Elms, Thicket Road, Houghton, Huntingdon, Cambs PE17 2BQ. UK

A comprehensive range of high quality vaccines.

In the control of Infectious Bronchitis in chickens, no one program can be ideally suited for every situation; control programs must always be adjusted to local conditions. To cope with this, MSD Animal Health has developed a comprehensive range of live and inactivated IB vaccines from which to choose. The following is an overview of currently available vaccines. For more detailed information, or assistance in planning an appropriate vaccination programme, please contact your local MSD Animal Health Key Account Manager.

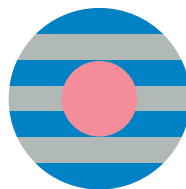
Live IB Vaccines

Massachusetts Serotype Strains



Nobilis® IB Ma5

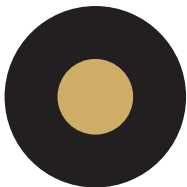
Live freeze-dried vaccine containing Infectious Bronchitis virus, strain Ma5, serotype Massachusetts.



Nobilis® Ma5 + Clone 30

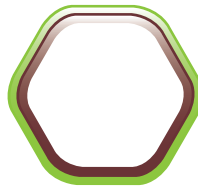
Live freeze-dried vaccine containing Infectious Bronchitis virus, strain Ma5, serotype Massachusetts and Newcastle Disease virus, strain Clone 30.

Variant Serotype Strains



Nobilis® IB 4-91

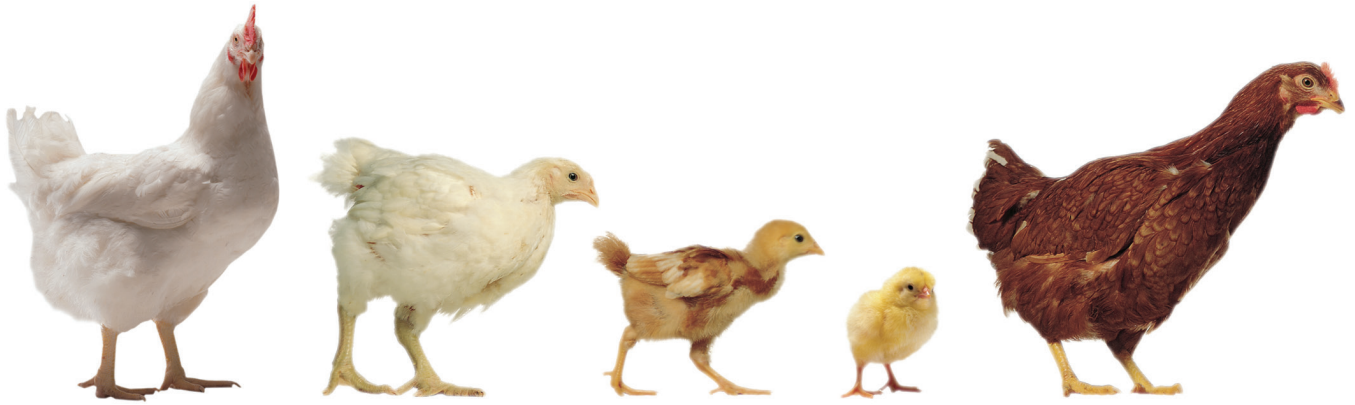
Live freeze-dried vaccine containing Infectious Bronchitis virus, strain 4/91.



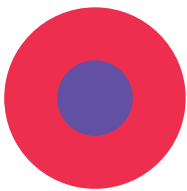
Nobilis® IB Primo QX

Live freeze-dried (Sphereon Form) vaccine containing Infectious Bronchitis virus, strain D388/QX.



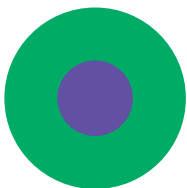


Inactivated IB Vaccines



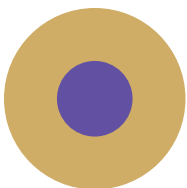
Nobilis® IB Multi+ND+EDS

Combined inactivated oil emulsion vaccine containing Infectious Bronchitis virus, strain 41 (Massachusetts serotype) and 249G strain (D207/D274 serotypes), Newcastle Disease virus and Egg Drop Syndrome virus.



Nobilis® RT+IB Multi+G+ND

Combined inactivated oil emulsion vaccine containing Turkey Rhinotracheitis virus, strain BUT 1#8544, Infectious Bronchitis virus, strains M41, serotype Massachusetts & D207/D274, Gumboro disease virus, strain D78 and Newcastle Disease virus, strain Clone 30.



Nobilis® IB Multi+ND

Combined inactivated oil emulsion vaccine containing Infectious Bronchitis virus, strains M41, serotype Massachusetts & D207/D274 and Newcastle Disease virus, strain Clone 30.



Optimising flock performance

The importance of best practice by using live priming and inactivated boosters to ensure higher titre levels

- Nobilis® IB Multi inactivated combination vaccines have a water-in-oil emulsion composition in which the oil phase has an adjuvant function.
- The water phase contains inactivated Infectious Bronchitis virus antigens of the Massachusetts and D207/D274 serotypes.
- One dose of vaccine is 0.5 ml administered by SC or IM injection.
- The best protection from the IB multi vaccine will be obtained after broad priming with live Nobilis® IB Ma5, Nobilis® IB 4-91 & Nobilis® IB Primo QX.
- Nobilis® IB Multi vaccines are developed for long living birds (layers and breeders) to induce high levels of circulating antibodies installing solid long lasting systemic immunity.
- Achieved immunity after full program of priming with Nobilis® IB Ma5 + Nobilis® IB 4-91 and a booster injection with a Nobilis® IB Multi combination vaccine).

Seroresponse comparison based on VN antibody titre (log²) after full IB program + live priming + inactivated booster vaccination program

Group	Live priming		Inac boost
	Day 1	6 weeks	16 Weeks
IB1	Ma5	4-91	IB1
IB Multi	Ma5	4-91	IB Multi
Comp	Ma5	4-91	Comp

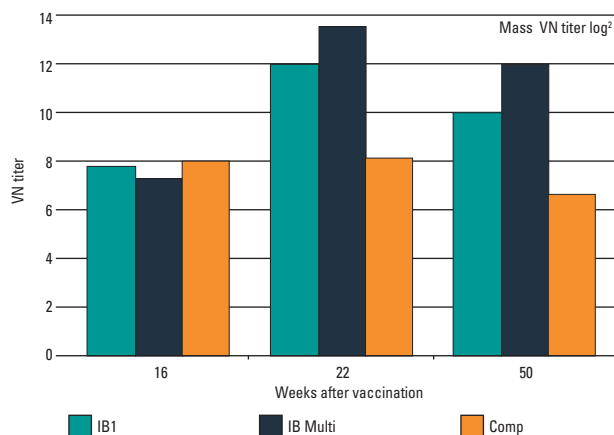
IB1 = IB inac Mass

IB Multi = IB inac Mass + D274

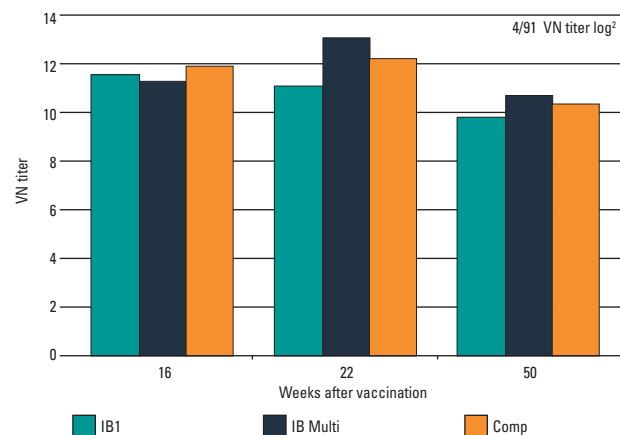
Comp = IB inac Mass + 793B type



Mass VN response



4/91 VN response



Conclusion

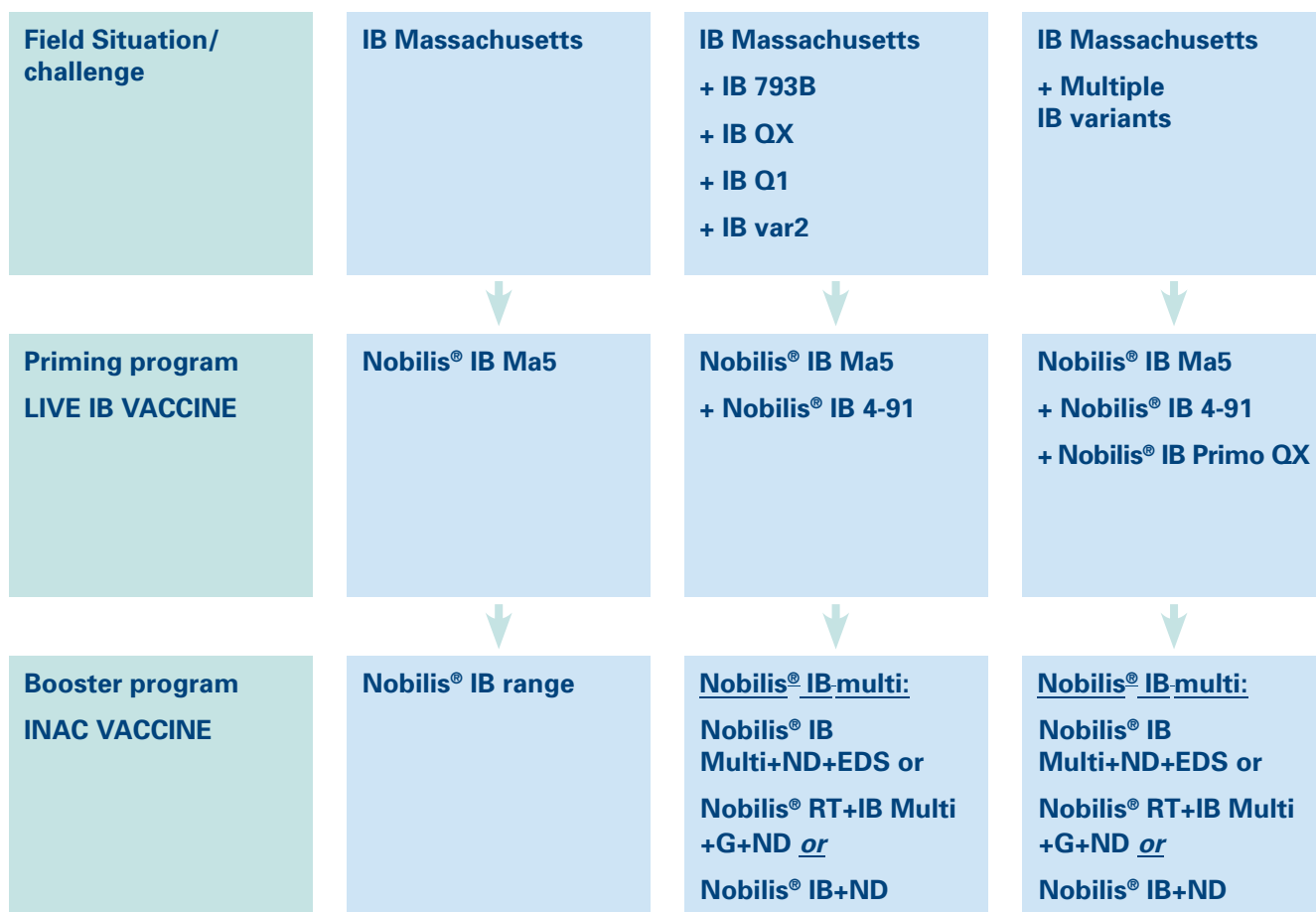
The trial showed that with the use of a Nobilis® IB Multi booster vaccine after priming with Nobilis® IB Ma5 and Nobilis® IB 4-91, the highest and most durable IB antibody titres were obtained.

Nobilis® IB control program for long living birds



A comprehensive range of high quality IB vaccines

Guideline IB control program in long living birds (layers/breeders)



For more information contact your local MSD Animal Health Key Account Manager.

Visit www.infectious-bronchitis.com

IB Multi+ND+EDS Reg.No. G4323 (Act 36/1947)
Nobilis® RT+IB Multi+G+ND Reg. No. G4428 (Act36/1947)
Nobilis® IB Multi+ND Reg. No. G4436 (Act 36/1947)
Nobilis® IB Ma5 Reg.No. G2300 (Act 36/1947)
Nobilis® IB 4-91 Reg.No. G4031 (Act 36/1947)
Nobilis® IB Primo QX Reg.No. G4211 (Act 36/1947)
Nobilis® Ma5 + Clone 30 Reg.No. G2301 (Act 36/1947)

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