

# Nobilis® IB Multi Range

For solid & durable Infectious Bronchitis protection.

# A whole world of protection.



## The most comprehensive vaccine range for Infectious Bronchitis control.



ONLY FROM MSD ANIMAL HEALTH

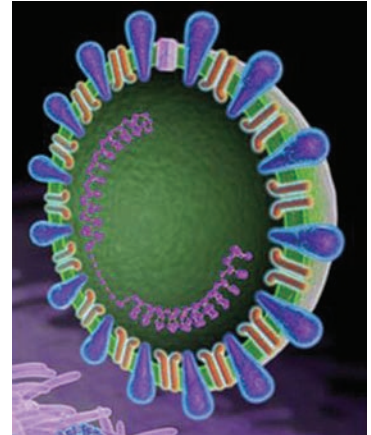
[www.msd-animal-health.com](http://www.msd-animal-health.com)



# Infectious Bronchitis and IB control in chickens.

## Infectious Bronchitis virus "Corona virus"

- RNA-viruses are prone to mutations and recombination's
- 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 chicken producers, broilers, breeders and layers.

### Respiratory signs



### Uro-genital tract signs



Nephritis

### Egg production drop & egg quality



Egg drop & egg quality



False Layer

## Current IB control

- Due to constant changes of IB field virus and the presence of many different IB variants, IB control asks for 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 Protectotype is the use of the live IB vaccines Nobilis® IB Ma5 in combination with Nobilis® IB 4/91.
- In short living birds, (broilers), we only use live vaccines inducing strong local immunity on respiratory and urogenital tract. In long living birds the advice is to add a booster of inactivated IB multi to induce high levels of circulating antibodies installing solid long lasting systemic 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 serotypes<sup>1</sup>

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

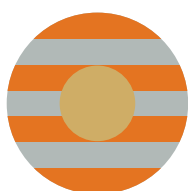
Intervet UK, The Elms, Thicket Road, Houghton, Huntingdon, Cambs PE17 2BQ. UK

# A comprehensive range of high quality vaccines.

In the control of Infectious Bronchitis in chickens, no one programme can be ideally suited for every situation; control programmes 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 representative or the MSD Animal Health Global Poultry Business Unit.

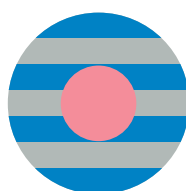
## Live IB Vaccines

### Massachusetts Serotype Strains



#### Nobilis® IB Ma5

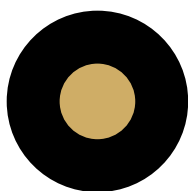
Live freeze-dried vaccine containing Infectious Bronchitis virus, strain Ma5, serotype Massachusetts.



#### Nobilis® Ma5 + Clone 30

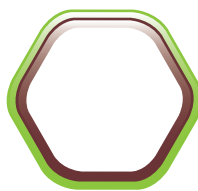
Live freeze-dried vaccine containing Infectious Bronchitis virus, strain Ma5, serotype Massachusetts and Newcastle Disease virus, strain Clone 30.

### Variant Serotype Strains



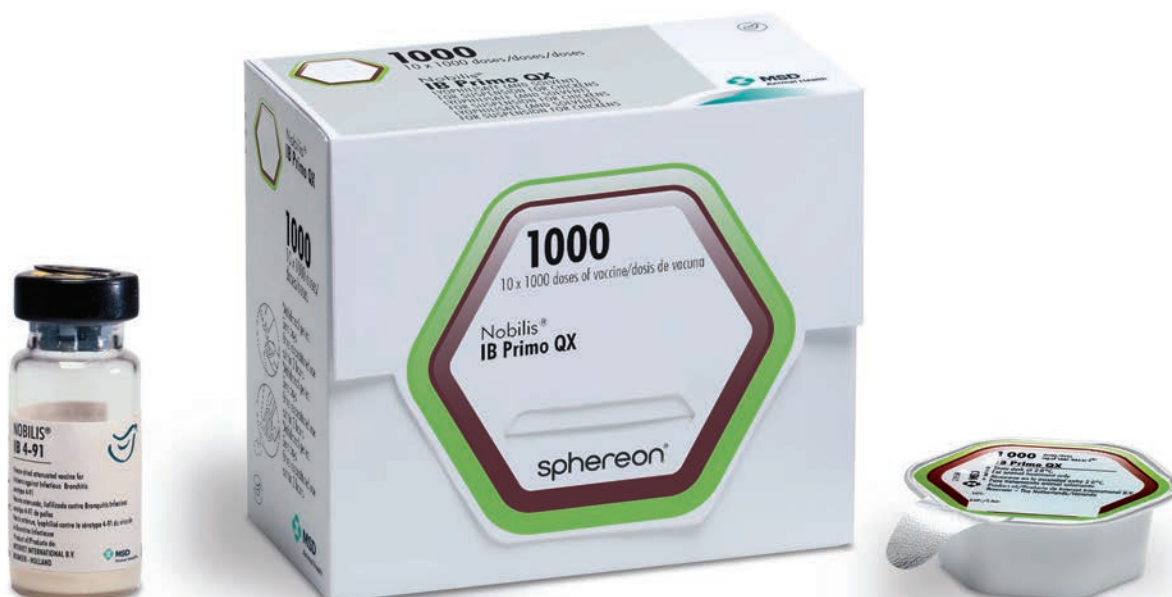
#### Nobilis® IB 4/91

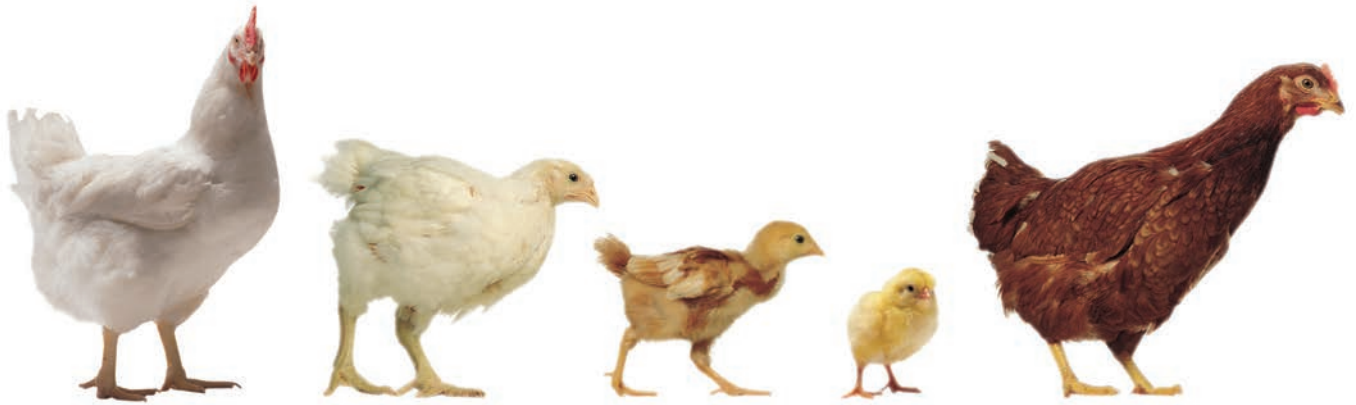
Live freeze-dried vaccine containing Infectious Bronchitis virus, strain 4/91.



#### Nobilis® IB Primo QX

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





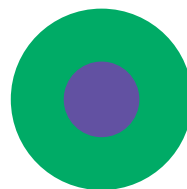
# Inactivated IB Vaccines

## *Nobilis® IB multi (Massachusetts + variant strain D274)*



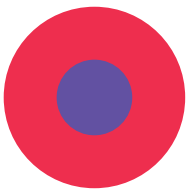
### **Nobilis® RT + IB multi + ND + EDS**

Combined inactivated oil emulsion vaccine containing Turkey Rhinotracheitis virus, strain BUT 1#8544, Infectious Bronchitis virus, strains M41, serotype Massachusetts & D207/D274, Newcastle Disease virus, strain Clone 30 and Egg Drop Syndrome '76 virus, strain BC14.



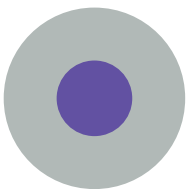
### **Nobilis® RT + IB multi + G + ND**

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.



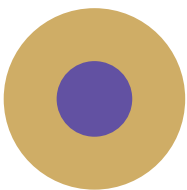
### **Nobilis® IB multi + ND + EDS**

Combined inactivated oil emulsion vaccine containing Infectious Bronchitis virus, strains M41, serotype Massachusetts & D207/D274, Newcastle Disease virus, strain Clone 30 and Egg Drop Syndrome '76 virus, strain BC14.



### **Nobilis® IB multi + G + ND**

Combined inactivated oil emulsion vaccine containing 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

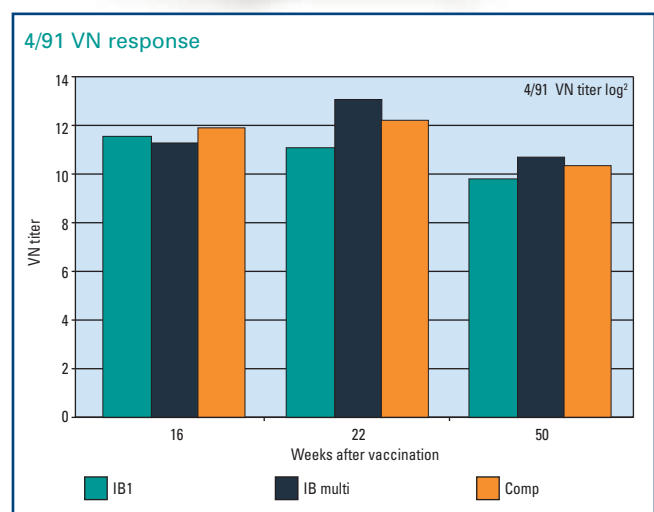
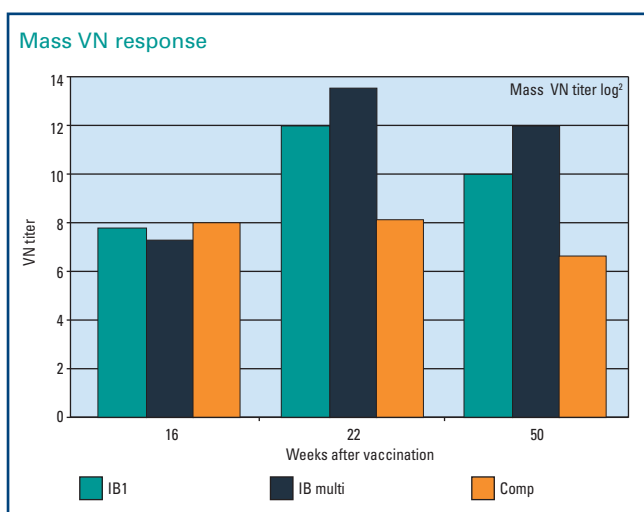
*The importance of best practice by using live priming and inactivated boosters to ensure higher titre levels*

- Nobilis® IB multi inactivated combi 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 D274 serotypes.
- One dose of vaccine is 0.5 ml administered by SC or Im injection.
- The best result of the IB multi vaccines will be obtained after broad priming with live Nobilis® IB Ma5 + Nobilis® IB 4/91 & Nobilis® IB Primo QX.
- IB multi is 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 boost injection with Nobilis® IB multi (range)

## Seroresponse comparison based on VN antibody titre (log<sup>2</sup>) after full IB program + live priming + Inac boost 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



### Conclusion

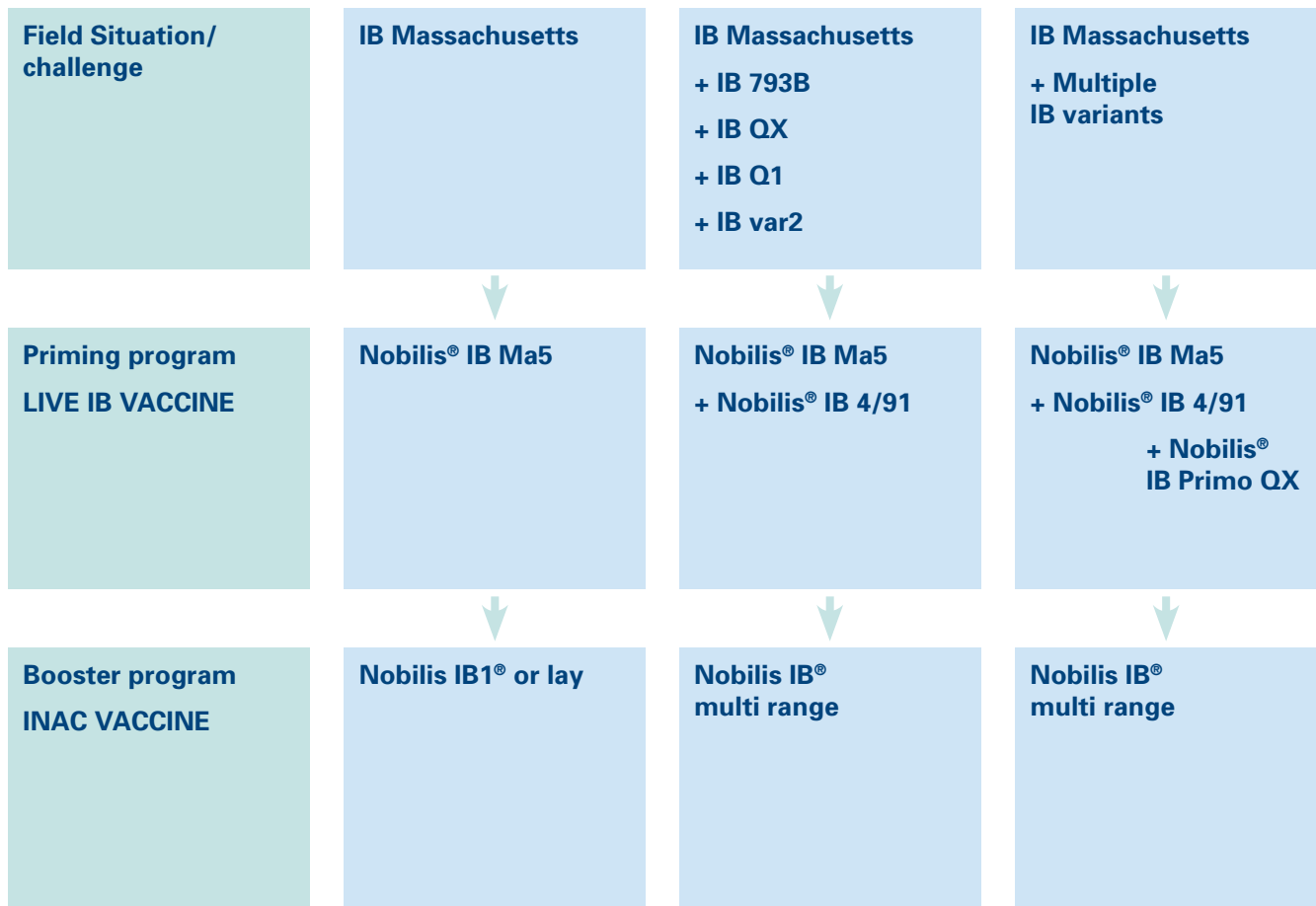
The trial showed that with the use of a Nobilis® IB multi boost vaccination after priming with Nobilis® IB Ma5 and Nobilis® IB 4/91, the highest and most durable IB antibody titres was obtained

# 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 representative.**

Visit [www.infectious-bronchitis.com](http://www.infectious-bronchitis.com)

