Broad Protection

Nobilis® IB 4/91

Widening the range of IB protection

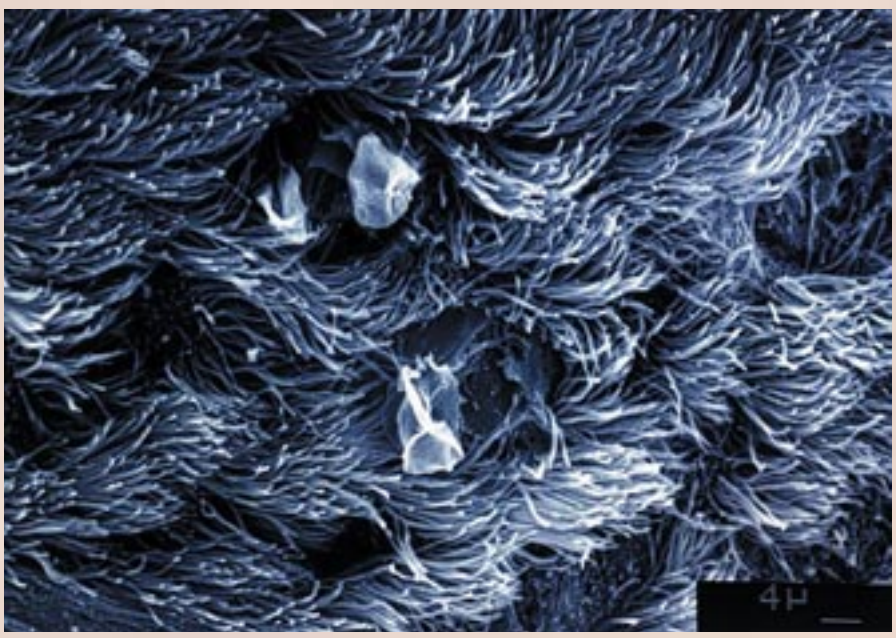
intervet

Infectious Bronchitis

IB continues to be a cause of major economic losses in the poultry industry.

Disease caused by IB virus

Infectious Bronchitis is a highly contagious disease, causing tracheal rales, coughing and sneezing. In broilers economic losses occur through poor performance (decreased weight gain and increased feed conversion). An increased susceptibility to secondary infections increases the mortality rate and the cost of antibiotic therapy. Nephropathogenic strains of IB cause kidney failure and an increased mortality rate. In laying flocks IB causes a drop in egg production and changes in egg quality. If infection occurs at an early age there may be permanent damage to the oviduct.



The normal surface of the trachea is covered mostly by cilia. The cilia protect the lower respiratory tract by trapping and removing pathogens and small particles

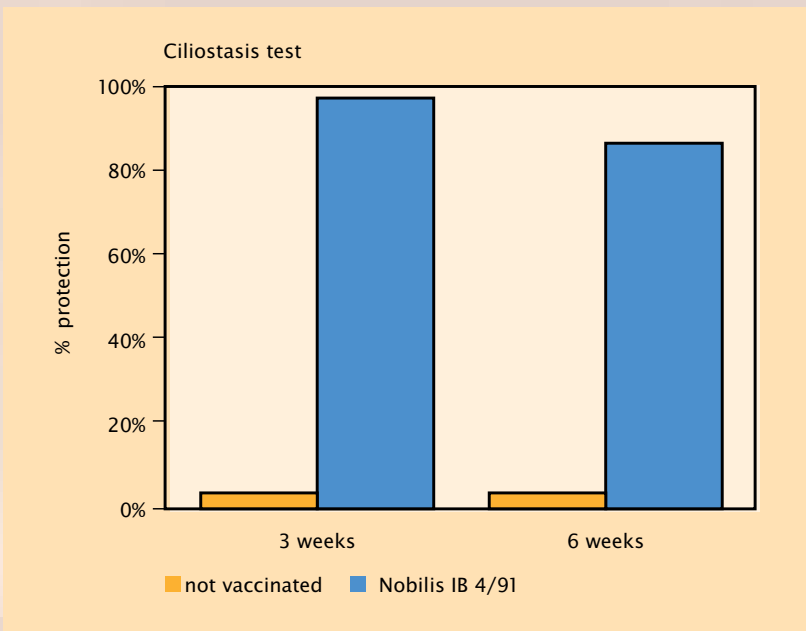
Following IB infection, the cilia on the epithelial cell surfaces are destroyed. The protective effect is thus lost, allowing the invasion of secondary pathogens. This effect can be quantified using the ciliostasis test .

Nobilis® IB 4/91

Innovative vaccine improves performance

Patented vaccine provides immunity against 4/91 challenge

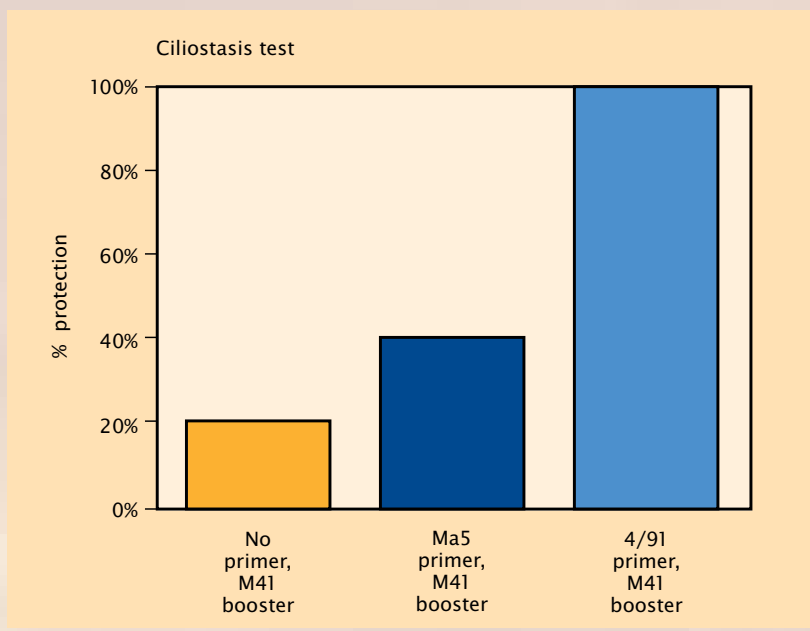
- Experiment with layers vaccinated at day-old with Nobilis IB 4/91.
- IBV 4/91 challenge, 3 or 6 weeks after vaccination.



CONCLUSION: Nobilis IB 4/91

is capable of inducing high and sustained levels of protection against IBV 4/91 challenge.

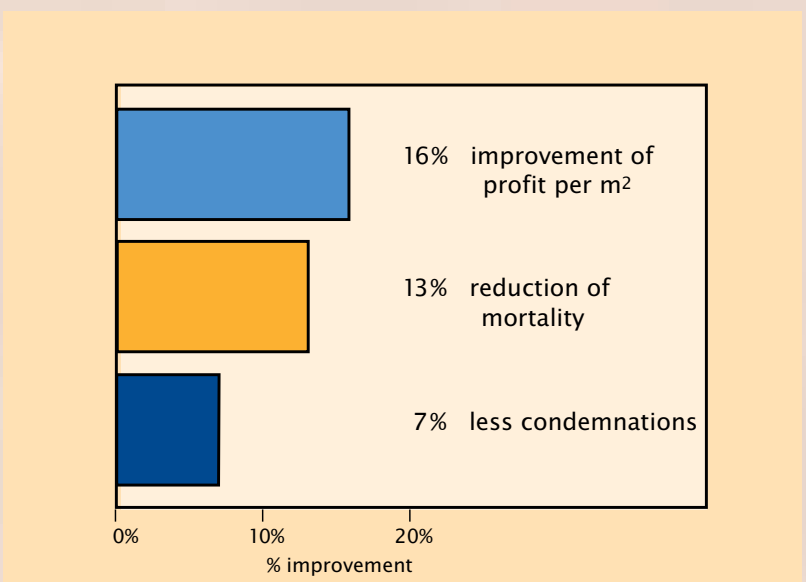
- Experiment with layers primed with Nobilis IB 4/91 or Nobilis IB Ma5 and boosted with an inactivated IB M41 (Massachusetts) vaccine.
- IBV 4/91 challenge, 4 weeks after booster vaccination.



CONCLUSION: Nobilis IB 4/91

is an effective primer for inactivated M41 to induce protection against IBV 4/91 challenge.

Higher profit per m²



- 25 broiler problem sites with over 2.5 million broilers had evidence of IBV 4/91 field infections.
- Two subsequent production cycles were compared.
- Birds in the first cycle were vaccinated with 2 doses of IB H120 (at day 1 and 10); the second cycle used IB H120 (day 1), followed by Nobilis IB 4/91 (day 10).
- The second cycle showed a significant reduction in mortality and condemnation rate and an increase in profit per m².

Nobilis® IB 4/91

Protectotypes and Serotypes

"From a practical point of view it may be more relevant to think in terms of protectotypes rather than serotypes" (Dr. J. Cook, 1998)

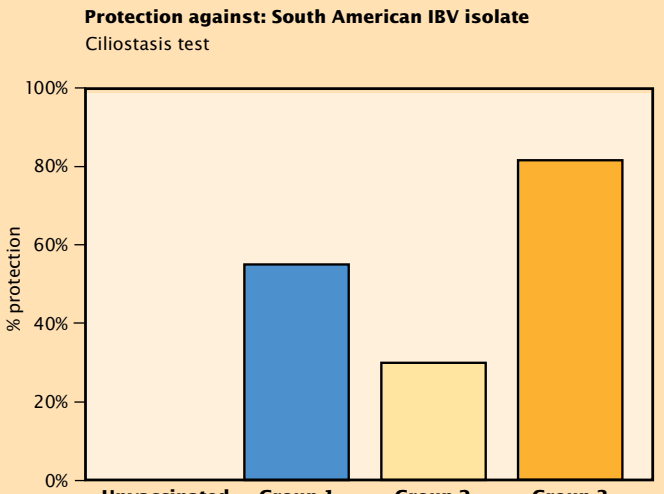
New serotypes of IBV can emerge as a result of a few aminoacid changes in the genome of the virus. As most of the virus genome remains unchanged there is a level of cross protection between different strains. With the continuous emergence of new IB strains, the level of cross protection induced by currently available vaccines needs to be evaluated. For practical purposes, IBV strains can be grouped into protectotypes, according to the protection achieved by vaccine strains.

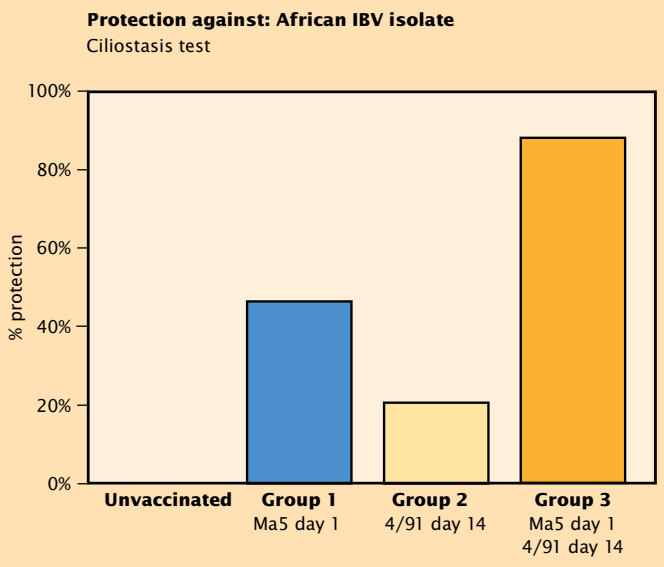
Ciliostasis test

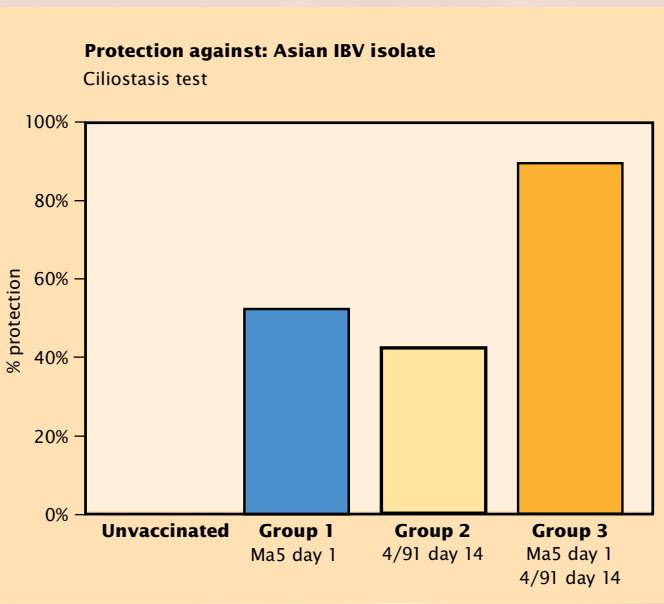
The ciliostasis test measures the effect of a virus on the tracheal mucosa. The test is also used to evaluate protection after vaccination. Level of protection is expressed as a percentage; values of 50% or above imply an active cilia layer with good protection. Values below 20% imply poor protection. A vaccinated bird that is subsequently challenged will have an active cilia layer if adequately protected.

Evaluation of Cross Protection

- Four groups each of 10 SPF birds
  1) Vaccinated with IB Ma5 at day 1
  2) Vaccinated with IB 4/91 at 14 days
  3) IB Ma5 at day 1 and IB 4/91 at day 14
  4) Not vaccinated
- Challenged with different field isolates at 5 weeks of age.
- Ciliostasis test 5-7 days post challenge.







CONCLUSION

Broad protection is achieved through the use of IB Ma5 at day1 and IB 4/91 at day 14.

Nobilis® IB 4/91

Widening the range of IB Protection

- A live attenuated IB vaccine effective against IB virus strain 4/91.
- Broad protection against many other IB variants in combination with IB Ma5.
- Proven safety.
- Can be applied via spray, eye drop or drinking water.
- Does not interfere with existing vaccination programmes.
- IB 4/91 is an effective primer for inactivated IB Massachusetts booster before lay.

Nobilis® IB 4/91

Broad Protection against Infectious Bronchitis

Nobilis IB 4/91

can be used as a single component vaccine, or it may be used in the same vaccination program with Nobilis IB Ma5, as suggested below.

Suggested vaccination schedule

Vaccination age	Day 1	14 Days	10 Weeks	16-18 Weeks
Layers and breeders	IB Ma5*	—	IB 4/91	Mass. type emulsion
Broilers	IB Ma5*	IB 4/91		

* IB Ma5 may be administered in combination with ND vaccine Clone 30 (Nobilis Ma5 + Clone 30).

Description

Nobilis IB 4/91 is a live, freeze-dried vaccine against Infectious Bronchitis serotype 4/91.
Each dose contains at least 3.6 $\log_{10}$ EID_{50} of the IB virus strain 4/91.

Indication

Active immunisation of chickens against disease caused by Infectious Bronchitis virus serotype 4/91 or serologically related types.

Malo, A., Orbell, S.J., di Fabio, J., Huggins, M.B., Woods, M.A. & Cook, J.K.A.(1998). Cross protection studies after the use of live-attenuated IBV 4/91 and Massachusetts vaccines. In: Proceedings of the Forty-Seventh Western Poultry Disease Conference, Sacramento, California, pp 62-64.

Administration

The vaccine can be administered by spray, eyedrop or in the drinking water.

Presentation

Nobilis IB 4/91 is available in vials containing 1000 or 5000 doses.

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Intervet Research Makes The Difference

Intervet International bv • P.O. box 31 • 5830 AA Boxmeer • The Netherlands
Phone: +31 485 587600 • Fax: +31 485 577333 • E-mail: info@intervet.com • www.intervet.com