

A close-up photograph of bird feathers, showing a mix of vibrant green and teal colors with intricate patterns and textures.

***SUCCESSFUL
PRODUCTION STARTS
WITH HEALTHY BIRDS***

PRODUCT INFORMATION

Innovax®-ND is a frozen, cell associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus strain with the F gene from Newcastle Disease Virus. It provides proven protection against virulent Newcastle Disease Virus (NDV) and Marek's Disease (MD).

INDICATIONS

Innovax®-ND is recommended for the active immunisation of healthy 18-day-old chicken embryos by the *in-ovo* route or for 1-day-old chickens by the subcutaneous route as an aid in the prevention of Marek's Disease and Newcastle Disease.

STORAGE AND ADMINISTRATION

Innovax®-ND is transported and stored in liquid nitrogen. **Innovax®-ND** must be thawed and reconstituted using **Nobilis® Diluent CA**. The vaccine is administered conveniently in the hatchery via injection:

- For subcutaneous vaccination, 0,2 ml per chick is injected in the neck.
- For *in-ovo* vaccination, eggs are injected on the 18th day of the embryo development using 0,05 ml per egg.

ONSET OF IMMUNITY

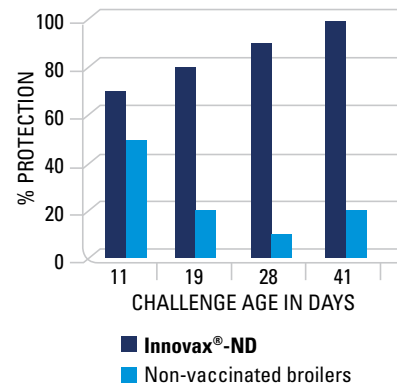
For Marek's Disease the onset of immunity has been demonstrated 5 days after vaccination. For Newcastle Disease, onset of immunity has been demonstrated 2 weeks after vaccination, reaching full immunity at 4 weeks.



ONSET OF IMMUNITY STUDIES

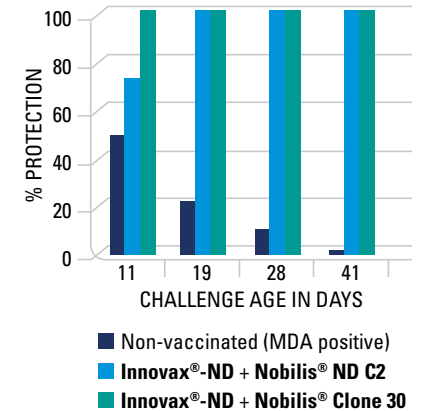
Mexico Chimalhuacan strain ICPI 1.89 – MSD study

- **Innovax®-ND** onset of immunity was examined in the face of a strong challenge – the Mexico Chimalhuacan strain.
- Maternally immune broilers were used, so at 11 days, the percentage protection is a combination of maternal immunity plus the early onset of immunity from **Innovax®-ND** that resulted in 70 % protection.
- At 19 days of age 80 % protection was achieved and by 28 days of age this increased to 90 %.



Mexico Chimalhuacan strain – Mexican government trial

- In a study conducted by the Mexican government, MDA positive birds were vaccinated with **Innovax®-ND + Nobilis® ND C2** at the hatchery or **Innovax®-ND + Nobilis® ND Clone 30** at the hatchery and challenged at the same ages.
- At 11 days, the combination of **Innovax®-ND + Nobilis® ND C2** achieved 70 % protection. However the combination of **Innovax®-ND + Nobilis® ND Clone 30** achieved 100 % protection on the same day.
- By 19 days, both the **Innovax®-ND + Nobilis® ND C2** and **Innovax®-ND + Nobilis® ND Clone 30** groups demonstrated 100 % protection.

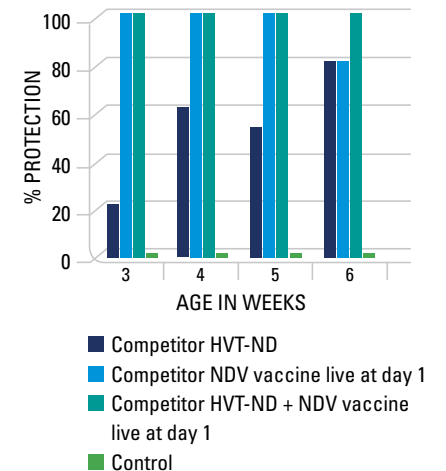


Competitor onset of immunity to NDV Chimalhuacan strain

Embryonated eggs from commercial broilers with MDA to NDV were assigned to 4 groups:

- Group 1 - vaccinated at 18 days of incubation with a competitor HVT-ND.
- Group 2 – did not receive an HVT-ND but were vaccinated with a live competitor NDV vaccine via eye drop at hatch.
- Group 3 - vaccinated at 18 days of incubation with a competitor HVT-ND and a live competitor NDV vaccine via eye drop at hatch.
- Group 4 – did not receive any vaccines = control group.

At various intervals, 10 birds in each group were challenged by eye drop with NDV Chimalhuacan strain, ICPI of 1.89.





INNOVAX®-ND EFFECTIVE PROTECTION AGAINST MAREK'S DISEASE

HVT MAREK'S DISEASE PROTECTION AT HVT LEVEL

Challenge strain MD GA5

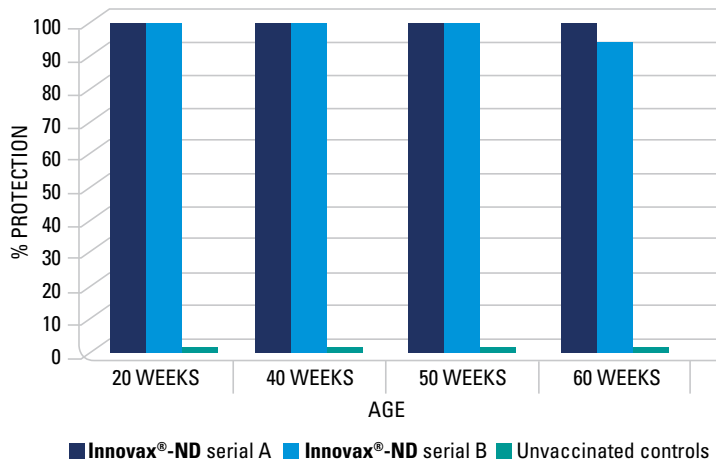
Treatment	Batch	Subcutaneous route		In-ovo route	
		MDV challenge day 5		MDV challenge day 5	
		Positives/total	% protection	Positives/total	% protection
Innovax®-ND	A	4/35	89	4/33	88
Innovax®-ND	B	1/35	97	3/34	91
MD challenge control	-	33/34	3	32/34	6

INNOVAX®-ND DURATION OF IMMUNITY

Duration of immunity against Newcastle Disease has been demonstrated for at least 60 weeks after a single vaccination. The duration of immunity against Marek's Disease will last for the entire risk period.

INNOVAX®-ND DURATION OF IMMUNITY:

% protection by age



COMPATABILITY WITH MAREK'S DISEASE VACCINES

Nobilis® Rismavac and Innovax®-ND are compatible.

Challenged with Marek's Disease at 5 days and Newcastle Disease at 28 days.

Vaccine (route)	Challenge virus	MDV (RB1B) % Protection	NDV (Texas GB) % Protection	% hatchability
Innovax®-ND (<i>in-ovo</i>)	ND		95	83
Innovax®-ND (<i>s/c</i>)	ND		90	
Nobilis® Rismavac (<i>in-ovo</i>)	MD	94		83
Nobilis® Rismavac (<i>s/c</i>)	MD	97		
Innovax®-ND + Nobilis® Rismavac (<i>in-ovo</i>)	ND+MD	97	90	83
Innovax®-ND + Nobilis® Rismavac (<i>s/c</i>)	ND+MD	100	86	
Not vaccinated	ND+MD	0	0	
Not vaccinated	None	100	100	83

Warning: Do not combine Innovax®-ND with any other conventional HVT vaccine or any competitor recombinant vaccine.

ADVANTAGES

- Provides extended protection for virulent NDV and MD;
- Aids in prevention of Newcastle Disease through at least 60 weeks of age;
- Offers effective protection in the face of NDV maternal antibodies;
- Allows the use of monovalent Infectious Bronchitis (IB) vaccines, improving IB protection;
- Offers flexible administration via *in-ovo* or subcutaneous injection to fit any vaccination schedule.



MSD ANIMAL HEALTH YOUR PARTNER IN POULTRY FLOCK HEALTH

REGISTRATION HOLDER

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